



Swedish Society for Nature Conservation

## Report

### Missing pieces

An international poll on consumer and company views and concerns on chemical safety work

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# Preface

To many people chemicals are abstract, yet they are present everywhere. The term “chemicals” encompasses chemical elements, such as metals, as well as natural and manufactured chemical compounds. Deliberately added chemical elements and compounds are everywhere in our daily lives; in household chemicals and personal hygiene products, as additives and preservatives in provisions, in pharmaceuticals, and in ordinary consumer goods, such as electronics, plastic items, clothes, and building materials, etcetera. Chemicals are an indispensable component of economic growth and welfare, but need to be managed properly. Chemicals that have unacceptable effects to the environment and human health need to be phased out from production and use, whereas others can be regulated in ways that minimizes risks. While the concept of proper management of chemicals is usually not controversial in itself, realizing it in practice is different story.

One aspect of this situation is the information gap. Because of historic failures of companies to evaluate the effects of chemicals on public health and the environment before production and widespread use, there are huge gaps in our knowledge. Without knowledge about possible negative effects, it is not possible to manage the chemicals properly. The lack of transparency between companies that are part of the same supply chains on the one hand, and companies and actors outside supply chains, such as retailers, consumer and the recycling business, on the other hand, also contributes to the information gap, and may result in improper management of chemicals, also as part of more complex chemical formulations and products. This is, most likely, the explanation for the low public trust in the chemical safety of consumer products, as well as in companies as sources of information on chemical safety issues, as found in the study presented in this report.

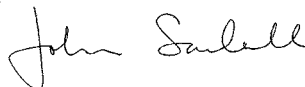
Another aspect of this situation is poor governance systems, that is to say insufficient laws governing chemical safety issues and insufficient law enforcement, poor compliance control mechanisms, and lack of proper governmental authorities and coordination between them and companies. This is particularly an issue in low and middle income countries, but not necessarily limited to them. In the United States of America we have the outdated federal Toxic Substances Control Act (TSCA) as of 1976, regulating industrial chemicals. First the governance systems need to be addressed at the national level, but in the longer run the Swedish Society for

Nature Conservation (SSNC) believes that increased international harmonization of governance systems, at least for the most hazardous chemicals, is a proper way forward. When harmonizing governance systems internationally, however, it is important to use the highest available standard as a benchmark, so that progressive countries do not have to downgrade their standards. Differentiated approaches for countries with different capacities may be warranted only for transition periods as limited as possible. This will – except for being positive for the safety of consumers worldwide and the global environment – level the playing field for actors on the market, and can hence stimulate international trade and economic growth.

From the study presented in this report, it is clear that consumers, on average, in the 10 participating countries and 14 participating cities/towns, have a low trust in the chemical safety of ordinary consumer products. Furthermore, in 9 of the 14 participating cities/towns, claims by companies that products are free from harmful chemicals got the lowest trust. This is a clear signal to both companies and decision makers.

There are a number of guiding documents that companies and decision makers may use to start addressing the low trust. Some of the most relevant documents are mentioned in this report. By participating in the Chemicals in Product Programme, newly adopted by the Strategic Approach to International Chemicals Management (SAICM), for example, companies can gain public goodwill, perhaps market advantages, and truly feel that they are contributing to addressing a fundamental aspect of good management of chemicals, namely to eliminate the information gap. When it comes to addressing the governance gap, decision makers have clear priority actions listed in the document Overall Orientation and Guidance for Achieving the 2020 Goal of Sound Management of Chemicals. There is also an excellent UN guiding documents that gives recommendations on how to put governance systems in place and to finance them - the Guidance on Development of Legislation, Administrative Infrastructures and Recovery of Administrative Costs (LIRA).

There is no longer a reason for decision makers and companies not to act.



*Johanna Sandahl*

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# Summary

In 2015, the Swedish Society for Nature conservation in collaboration with a number of its international collaboration partners carried out two sets of questionnaire-based polls on chemical safety issues, addressing:

1. Consumer opinions (14 cities/towns, in 10 countries)
2. Company opinions (on a country basis, in 10 countries)

The consumer questionnaire contains 18 questions, divided into three major sections. The first is about the perceived magnitude of exposure to hazardous chemicals, with respect to health and the environment, from various consumer goods. Chemical safety work in the occupational environment is the topic of the second. The third is about trust in sources of information on chemical safety issues, and responsibilities from different actors in society.

The company questionnaire contains 20 questions, divided into three major sections. The first addresses sharing of safety information from and education by producers of chemicals to their customers, the second the same as the first, but with manufacturers of more complex consumer goods (chemical formulations or composite products) as the target, and the third section is about legal responsibilities and how the companies believe that stronger national and international legislation on chemical safety issues, respectively, would affect their business.

The study has created a vast amount of data, impossible to present in detail in one report. Each city and country poll could result in a brief report, in its own right. Please see the appendices D-X for details.

However, some general observations were made:

- The overwhelming majority of the consumers in all 14 cities/towns included in this poll were worried about consumer goods containing chemicals hazardous to health and the environment.
- In 9 of the participating cities, the lowest trust was given to claims that a product is safe to health and the environment if the claim comes from the com-

panies themselves. Only in one city/town, in Ukraine, the majority put the highest trust in company claims.

- Many workplaces seem to have procedures and measures in place to minimize risks from hazardous chemicals, which is encouraging. Still, a good number of poll participants who said that the questions in the section about chemical safety work in the occupational environment were relevant to them, pointed out shortages in specific measures. These shortages ranged from lack of health and safety trainings, to lack of chemical safety manuals, personal protection equipment, readable warning signs in dangerous places, and departments responsible for chemical safety issues in the occupational environment.
- Most poll participants said that the responsibility for the chemical safety of products should be shared between producers of chemicals, producers of more complex products, national and international decision makers. The relative magnitude of this responsibility was approximately similar for all actors in all countries. This clearly shows that ordinary consumers expect producers of chemicals and manufacturers of more complex products to take a significant responsibility.
- Many of the participating companies said that they have procedures in place for sharing chemical safety information, for example via material and product safety data sheets, and safety trainings in place, which is very good. Yet this is just a foundation step in being transparent. In societies where we strive for ever more circular economies, to save materials, energy and water, it becomes increasingly important to be even more transparent, to the actors within and outside supply chains, about the chemical profiles of formulations and product components used in the manufacturing of more complex consumer products, so that they can be safely handled throughout

their life cycles, and materials safely recovered, re-used, or terminally handled as waste.

- Most of the participating companies had a positive view of how stronger national and international legislation would affect their competitiveness on their respective national markets, and the export markets. Only companies in high income countries seemed a bit more reserved. Most participating companies also said that stronger legislation probably would improve their rate of innovation.
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Based on these observations, the report concludes with a number of recommendations to decision makers, producers of chemicals and more complex products, and to civil society:

#### Decision makers

- Make sure to, first and foremost, address the 11 core elements in the SAICM Overall Guidance Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals as quickly as possible<sup>5</sup>. This includes, with some additional recommendations:
  - To develop and install legal frameworks addressing the life cycle of chemicals and waste in place.
  - To install relevant enforcement and compliance mechanisms.
- To make sure that there are strong institutional frameworks and coordination mechanisms among relevant stakeholders. In particular, facilitate or help companies to fulfil their roles in the 11 SAICM core elements. Make sure that companies understand what legal requirements they have to comply with when it comes to safety of products and with respect to chemicals
- To include sound management of chemicals and waste in national health, labor, social, environment and economic budgeting processes and development plans. Many health and environmental costs are now externalized to society. Operationalize industry financial responsibilities in chemicals management, using well-designed taxation control management systems, and registration fees for chemicals placed on the markets.
- To implement chemicals and waste-related multilateral environmental agreements, as well as health, labor and other relevant conventions and voluntary mechanisms. Make sure that your country is devoted to continually improve and expand the existing international agreements and mechanisms, so that all chemicals with unacceptable health and environmental consequences eventually will be regulated internationally. Only then the planet will be safe from them. And increased international harmonization of chemical legislation in the longer perspective would level the playing field for all actors in a globalized economy and facilitate trade. Devote your country to secure that there will be a strong successor to SAICM – a global voluntary broad-scope mechanism – in place when the mandate of SAICM ends in 2020. Work for sustainable solutions to secure the long-term financing of this work.

## Companies

- First and foremost, make sure that you fulfil your responsibilities in relation to the SAICM Overall Guidance Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals as quickly as possible. This includes, with some additional recommendations:
  - To put in place collection and systems for the transparent sharing of relevant data and information among all relevant stakeholders using a life cycle approach, such as the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals. Companies are strongly encouraged to participate in the Chemicals in Products Programme, as this will operationalize transparent data and information sharing of among the stakeholders, throughout the life cycle of products.
  - To participate and define industry responsibility across the life cycle, including cost recovery policies and systems as well as the incorporation of sound chemicals and waste management into corporate policies and practices.
  - To develop environmentally sound and safer alternatives. Proper chemicals risk assessments are a responsibility of companies, and must be a requirement before a chemical is allowed to be placed on markets.
  - To development and promote environmentally sound and safer alternatives. The principles of Green Chemistry can be followed.
  - To make sure that the corporate management and all key persons in the production units know what national and international legislation govern the chemical safety of the products produced or manufactured by your company.

- To devote your company to secure that there will be a strong successor to SAICM in place when the mandate of SAICM expires in 2020.
- To observe the UN Guiding Principles on Business and Human Rights, in order to strengthen due diligence in corporate supply chains for the protection of various rights implicated in the product life-cycle.

## Civil society organizations

- First and foremost, to assist in all possible ways governments, authorities, and companies to address the 11 core elements in the SAICM Overall Guidance Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals as quickly as possible. This could include:
  - To do awareness raising to governments on tools to assist good chemicals governance, such as a number of UN manuals, for example the guide for Guidance on Development of Legislation, Administrative Infrastructures and Recovery of Administrative Costs (LIRA), the United Nation Development Programme (UNDP) Guide For Integrating the Sound Management of Chemicals into Development Planning<sup>3</sup>, the United Nations Institute for Training and Research (UNITAR) Guidance for Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management (2nd edition), and the Food and Agriculture Organization<sup>4</sup> (FAO) International Code of Conduct on Pesticide Management.
  - To do awareness raising to governments and companies on the cost of inaction, using the UNEP Cost of Inaction Report on the Sound Management of Chemicals.
  - To do awareness raising on Globally

Harmonized System for Classification and Labelling of Chemicals (GHS) to governments and companies. The GHS paves the way for global harmonization in how information on chemical hazards is communicated and is of great importance for facilitating access to and sharing of information.

- To do awareness raising to companies on the Chemicals in Products Programme, and encourage them to participate.
- To do awareness raising to the public on product categories for which this study indicate a low risk awareness, for example for textiles and leather goods that have large health and environmental impacts in the production, and that also may contain harmful chemicals when they reach the consumers. The participating organizations are encouraged to further analyze the data collected, in order to identify potentially differential awareness raising needs among different gender, age and educational level groups.
- In addition to the mentioned awareness raising activities, provide technical expertise about chemicals to governments and authorities when appropriate.
- Create a forum in which the government and companies can engage civil society in transparent dialogue on issues raised in the poll, especially in cases where there is lack of government institution or capacity to host or initiate such dialogue.
- Assist consumers in organizing themselves into consumer interest organizations, and bringing forward demands to decision makers and companies for safe products to health and the environment.
- Act as watch dogs, to monitor that decision makers and companies fulfil their duties and undertakings, as well as monitor chemicals in consumer products and the environment, the latter suggestion in line with the core element on monitoring chemicals according to the SAICM Overall Guidance Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals.
- Follow and influence the process of negotiating a successor to SAICM, in the interest of civil society.

# Background

To many people chemicals are abstract, yet they are present everywhere. The term “chemicals” encompasses chemical elements, such as metals, as well as natural and manufactured chemical compounds. Deliberately added chemical elements and compounds are everywhere in our daily lives; in household chemicals and personal hygiene products, as additives and preservatives in provisions, in pharmaceuticals, and in ordinary consumer goods, such as electronics, plastic items, clothes, and building materials, etcetera. Chemicals are an indispensable component of economic growth and welfare, but need to be managed properly. Chemicals that have unacceptable effects to the environment and human health need to be phased out from production and use, whereas others can be regulated in ways that minimizes risks. While the concept of proper management of chemicals is usually not controversial in itself, realizing it in practice is different story.

The global chemical industry has grown significantly over the past 50 years, and the Organisation for Economic Co-operation and Development (OECD) projected in 2012 that there will be a six-fold increase in chemical production by 2050, compared to the 2010 baseline<sup>1</sup>. The latest United Nations (UN) Global Chemicals Outlook report from 2012 showed that increasingly more chemicals are produced and consumed in low and middle income countries, with positive trends in the forecasts for the years ahead<sup>2</sup>. Similar predictions are made by OECD. The emerging economies of Brazil, Russia, India, Indonesia, China, and South Africa alone are predicted to account for the greater share of the global chemicals sales by 2050<sup>1</sup>. Many consumer goods for global sales are produced in low and middle income countries, notably in China and India.

While many high income countries continue to make progress in collecting and assessing information on exposure to and risks from chemicals, putting legislation in place and enforcing it, capacity and proper infrastructure is lagging behind in many low and middle income countries. The lack of capacity and proper infrastructure in low and middle income countries, in combination with increased consumption and production of chemicals there, puts people there at greater risk of exposure to hazardous chemicals. The cost of

this is becoming ever more apparent. According to the UN report *The Cost of Inaction – on Sound Management of Chemicals*, more people annually die from chemicals than from road accidents<sup>3</sup>. The burden falls more heavily on low and middle income countries, where it can negatively impact productivity and poverty reduction<sup>1</sup> in the longer run. But populations in all countries experience an increasing number of adverse health effects, known or suspected to be linked to chemical exposure. Certain types of cancer, developmental, cognitive and reproductive disorders are among them<sup>4</sup>.

Proper management of chemicals spans from individual companies, to the local, national, regional and international levels. Companies need proper and sufficient policies to regulate the use of chemicals and the work place safety for the workers. There must be proper and sufficient national legislation in place, as well as capacity to enforce the laws and check compliance with them. National legislation sets minimum standards, ensures that the regulation is impartial, and creates a level playing field for similar companies nationally. Sometimes regional coordination is the preferred way forward. The European Union (EU) chemicals legislation Register, Evaluate, Authorization, and Restriction of Chemicals (REACH) is an excellent example of that. Although imperfect and still needs to be fully implemented, it has already improved access to information on chemicals along supply chains, spurred innovation, and generally increased the safety for European consumers, and strengthened the protection of the environment. REACH now serves as a model for other countries and regions in the process of revising their chemicals legislation, such as in China<sup>5</sup>. But the most hazardous chemicals need to be regulated globally. Over the past forty years, a set of global agreements has emerged to address specific issues in chemicals management. There are four principal chemicals conventions: the Basel, Rotterdam, Stockholm; and Minamata Conventions. The Stockholm Convention regulates particularly hazardous organic compounds, while the Basel and Rotterdam Conventions regulates trade with hazardous chemicals and waste and the right for recipient countries to be pre-informed and to give their consent to accept imports of hazardous

chemicals and waste<sup>6</sup>. The Minamata Convention has yet to enter into force and be implemented, but once it achieves this status it will regulate the full-life cycle of mercury globally<sup>7</sup>. In addition to these legally binding agreements, there is a voluntary process called the Strategic Approach to International Chemicals Management (SAICM), developed and coordinated by the UN Environmental Programme UNEP<sup>8</sup>. It addresses aspects of chemicals management that currently are not covered by any convention. The mandate of SAICM ends in 2020, and a roadmap for the last five years of the work was adopted at a SAICM meeting in 2014. This road map – called the Overall Orientation and Guidance Document (OOGD) – lists eleven prioritized measures for establishment of proper chemicals management: strengthened legal frameworks; compliance mechanisms; strong institutional frameworks; industry participation and responsibility; and inclusion of chemicals in national budgeting processes and development plans among them<sup>9</sup>. That is to say, strong focus is put on governance issues of chemicals. SAICM also promotes regional collaboration and initiatives, and further coordination between the chemicals conventions.

Civil society organizations can have a role in lobbying for proper chemicals management, targeting decision makers at all levels, as well as companies. Having well-founded arguments, and also an idea of what the opinion and concerns of various stakeholders helps in establishing constructive dialogues.

The Swedish Society of Nature Conservation (SSNC), in collaboration with ten international partners (Association de protection de l'environnement et du développement durable de Bizerte (APEDDUB) (Tunisia); Ban Toxics! (the Philippines); Ecological Alert and Recovery Thailand (EARTH) partnering with the Thai Foundation for Consumers (FFC); groundWork South Africa (South Africa); Instituto Brasileiro de defesa de consumidor (IDEC) (Brazil); KAN Centre for Environment and Development (KANCED) (Canada); MAMA-86 (Ukraine); National Association of Professional Environmentalists (NAPE) (Uganda); and Toxics Link (India)), carried out a poll in 2015. It was done in selected cities in the respective countries

of the partner organizations. For more details, see the following section on methods.

The purpose of the poll, on the one hand, was to get an indication of the public level of awareness of, and concerns over, the potential presence of hazardous chemicals in ordinary consumer products, including food and drinking water, as well as in the working environment. On the other hand, the purpose was to get an indication of how companies reason around chemicals legislation and how such affects their competitiveness nationally and internationally.

This poll was not a scientific investigation. SSNC is aware that it has shortcomings. It was carried out according to best practices, given the limitations in access to data, personal and financial resources, as well as time and country specific factors. The data from the participating countries is, thus, not directly comparable, although collected using the same basic methodologies as far as possible.

# Methods

See appendix A for details in running text and tables.

The questionnaire for consumers is found in Appendix B; the questionnaire for companies in C.



# Results consumer poll

The consumer questionnaire consists of three major sections: the first is about the perceived magnitude of exposure to hazardous chemicals with respect to health and the environment; the second deals with chemicals safety work in the occupational environment; and the third is about trust in sources of information on chemical safety issues, and responsibilities from different actors in society. The presentation of the results is structured accordingly.

Due to the large amount of data collected in this poll, the results are not presented individually in running text in the report, rather only as graphs with explaining figure captions, for a selection of questions from the questionnaires, in the appendices D-M. General patterns and some country specific observations are mentioned in the following paragraphs. Thus, this report should be considered only to be a first glimpse into the potential information contained in the collected data.

## Section 1 of the consumer poll

### *Consumer products in general (questions 8 and 10 in the consumer questionnaire)*

Questions 8 and 10 of the consumer questionnaire summarize the overall concern of the poll participants for hazardous chemicals in consumer products, with respect to health and the environment. It is clear that consumers in all covered cities/towns were concerned (see Figure 16 in the appendices D-M).

### *Food and beverages (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from food and beverages, with respect to health (question 7) and the environment (question 9). In the majority of the low and middle income country cities and towns in this study, the poll participants believed that the potential magnitude of exposure to hazardous chemicals from food and beverages is rather high (replies in the classes “a fair amount” to “a great deal”), whereas the poll participants in high income countries, such as Canada and Sweden, seemed less worried



(see Figure 2 in the appendices D-M). The participants in Canada, notably in Ottawa seemed least concerned. The participants of Bizerte (Tunisia) and Kyiv (Ukraine) had somewhat similar opinions to the participants in high income countries (see Figure 2 in the appendices K and M b)).

### *Personal hygiene products, cosmetics, beauty products, and perfumes (questions 7 and 9 in the consumer questionnaire)*

Personal hygiene products, cosmetics, beauty products, and perfumes are here presented as a group, since they share common modes of application (all applied onto the body and then rinsed off). The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from these products, with respect to health (question 7) and the environment (question 9). Most participants in this study, in most countries, believed that personal hygiene products to a substantial degree contain chemicals hazardous to health and the environment (replies in the classes “a fair amount” or “a great deal” (see Figure 3 in the appendices D-M)). The highest number of replies, generally, was in the class “a fair amount” (37-64%), with the exception of Kirovohrad (Ukraine), Mukono (Uganda) and Kampala (Uganda), where most replies were in the class “a great deal” (70%, 59% and 45% respectively) (see Figure 3 in the appendices D-M). Still a good number of replies were found in the class “not very much” (15-25%) (see Figure 3 in

the appendices D-M). In Bizerte (Tunisia), a good number of replies were in the class “I do not know” (9% with respect to health and environment, respectively). Similar reply patterns as for personal hygiene products were observed for cosmetics, beauty products, and perfumes, with most replies in the classes “a fair amount” or “a great deal” (see Figure 4 in the appendices D-M). The number of replies in the class “not very much” ranged from 8-23%, and was particularly high in the Bizerte (Tunisia) (23%) and Yaremche (18%) (Ukraine). In Bizerte (Tunisia), 8% also replied “I do not know”, both with respect to health and environment.

*Household cleaning products (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from household products, with respect to health (question 7) and the environment (question 9). Most replies were found in the classes “fair amount” and “a great deal” (see Figure 5 in the appendices D-M). The number of replies in the class of highest concern (“a great deal”) ranged from 44-86% for questions 7 and 9 (see Figure 5 in the appendices D-M). But notably in Bangkok (15% of the replies with respect to health) (Thailand), Toronto (15% of the replies with respect to health) (Canada), Davao (14% of the replies with respect to health) (the Philippines), Kampala (13% of the replies with respect to health) (Uganda) and Mukono (13% of the replies with respect to health) (Uganda), there were also a good number participants who replied “not very much” (see Figure 5 in the appendices E b), G, H, J, L a) and L b)).

*Electronic and electrical products (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from electronic and electrical products, with respect to health (question 7) and the environment (question 9). It is obvious from this study that the participants generally believed that there are potentially environmentally hazardous chemicals in his product category, but still a good share replied “not very much” with respect to health (19-48%) (see Figure 6 in

the appendices D-M). Particularly in Ottawa (Canada), Kirovohrad (Ukraine) and Mukono (Uganda), the belief in potential health hazards seems low, with 47%, 37%, and 34% of the replies, respectively, in the class “not very much” (see Figure 6 in the appendices E a), L b), and M a)).

*Children's toys (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from children's toys, with respect to health (question 7) and the environment (question 9). In many of the cities/towns, the participants replied “not very much” with respect to health (23%-47% of the replies) (see Figure 7 in the appendices D-M). In some cities, a good number of the participants even replied “none at all”, notably in Ottawa (Canada) (36%), Kampala (Uganda) (31%), Mukono (Uganda) (22%), and Bizerte (21%) (Tunisia) (see Figure 7 in the appendices E a), K, L a), and L b)). In Kirovohrad and Yaremche, both in Ukraine, however, the participants seems to be more concerned about health and environmental hazards from toys (see Figure 7 in the appendices M a) and M c)).

*Textiles and leather goods (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from textiles and leather products, with respect to health (question 7) and the environment (question 9). Up to a half of the participants in some of the cities/towns replied “not very much” with respect to health (see Figure 8 in the appendices D-M). It is worth noting, though, that in cities/towns in countries that are textile and leather producers, such as the Philippines, Thailand, and Uganda, the concern about the potential health hazards of this product category seems to be higher, as the numbers of replies in the classes “a fair amount” and “not very much”, were more balanced (see Figure 8 in the appendices D-M). In Stockholm, the participants were concerned with respect to both health and the environment (see Figure 8 in the appendix I). In general, except in the participating cities/towns in Ukraine,

people seem to be more concerned about this product category with respect to the environment than to health (see Figure 8 in the appendices D-M).

*Shoes (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from shoes, with respect to health (question 7) and the environment (question 9). Most participants in this study did not see shoes as a particularly significant source of hazardous chemicals to health (most replies in the class “not very much” (up to 50%)) (see Figure 9 in the appendices D-M). In Ottawa (Canada), 39% of the participants replied “none at all” with respect to health (see Figure 9 in the appendix D a)). A slightly higher level of concern, in general, was observed with respect to the environment (see Figure 9 in the appendices D-M).

*Furniture and interior design items (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from furniture and interior design items, with respect to health (question 7) and the environment (question 9). The results from this study indicate variable levels of concern for health and environmental hazards from chemicals in this product category. With respect to health, most participants in Davao (the Philippines), Ottawa (Canada), Mukono (Uganda), and São Paulo (Brazil) seemed not to be particularly concerned (most replies in the class “not very much”), in Delhi (India) and Kampala (Uganda), most replies were in the class “none at all”, whereas in Bangkok (Thailand), Bizerte (Tunisia), Durban (South Africa), Kyiv (Ukraine), and Stockholm (Sweden) the shares of answers between the classes “not very much” and “a fair amount” were more balanced, and in Kirovohrad and Yaremche, both in Ukraine, people seem more concerned (most replies in the class “a fair amount”) (see Figure 10 in the appendices D-M). Concerns with respect to the environment were generally higher (see Figure 10 in the appendices D-M).

*Kitchen utensils and food storage materials (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from kitchen utensils and food storage materials, with respect to health (question 7) and the environment (question 9). This study showed that there are variable concerns among the participants with respect to health and the environment, but generally a higher concern for the environment. In Ottawa (Canada), the participants were not particularly concerned with respect to health (see Figure 11 in the appendix E a)). In Bangkok (Thailand), Bizerte (Tunisia), São Paulo (Brazil), and Toronto (Canada), the number of replies between the classes “not very much” and “a fair amount” were approximately balanced, while in Davao (the Philippines), Delhi (India), Durban (South Africa), Kirovohrad (Ukraine), Kyiv (Ukraine), Mukono (Uganda), Stockholm (Sweden), most replies were in the class “a fair amount”, and in and Kampala (Uganda) and Yaremche (Ukraine), the class “a great deal” got most replies (see Figure 11 in the appendices D-M).

*Equipment at work (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from equipment at work, with respect to health (question 7) and the environment (question 9). The results for this product category were highly variable (ranging from predominantly replies in the classes “not very much”, to “a great deal”) (see Figure 12 in the appendices D-M). Many of the participants, though, believed that the equipment at work may contain chemicals hazardous to the environment (see Figure 12 in the appendices D-M).

*Building materials (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from building materials, with respect to health (question 7) and the environment (question 9). Most poll participants seem to be concerned about hazardous chemicals in this product

category (most replies in the classes “a fair a fair amount and “a great deal”) (see Figure 13 in the appendices D-M). Only in the Canadian cities Ottawa and Toronto, there were good numbers of persons who replied “not very much” with respect to health (see Figure 13 in the appendices E a) and E b)). In Kampala (Uganda), most poll participants replied “a great deal” both with respect to health and environment (see Figure 13 in the appendix L a)). There is a data gap for Thailand, as the sub-question on building materials in questions 7 and 9 was lost in the translation of the questionnaire into the Thai language.

*Fuel products (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from fuel products, with respect to health (question 7) and the environment (question 9). In all cities/towns covered by this study, the participants were highly concerned (most replies in the classes “a fair amount” and “a great deal”) about hazardous chemicals in fuel products, with respect to health and the environment (see Figure 14 in the appendices D-M). In Mukono (Uganda), however, 31% of the participants replied that they were not very concerned with respect to health, and 22% that they were not very concerned with respect to the environment (see Figure 14 in the appendix L b)).

*Paints (questions 7 and 9 in the consumer questionnaire)*

The poll participants rated what they believed is the potential magnitude of exposure to hazardous chemicals from paints, with respect to health (question 7) and the environment (question 9). Most participants were highly concerned (most replies in the classes “a fair amount” and “a great deal”) about hazardous chemicals with respect to health and the environment (see Figure 15 in the appendices D-M). A good number of people Delhi (India) and Davao (the Philippines), however, seem not to be so concerned about paints (15% and 11%, respectively, of the replies in the class “not very much”) (see Figure 15 in the appendix F and G). In Mukono (Uganda), even 25% replied “not very much” (see Figure 15 in the appendix L b)).

## Section 2 of the consumer poll

*Perceived safety in the working environment (question 13 in the consumer questionnaire)*

The majority of the participants, except in Bizerte (Tunisia), felt quite safe with respect to chemicals in their working environments (see Figure 16 in the appendices D-M). In Bizerte (Tunisia), 38% said that they felt “very unsafe”, and in Bangkok (Thailand) the share of replies in this class was 27% (see Figure 16 in the appendices J and K). Furthermore, in 13 of the participating cities, the participants felt quite unsafe (>10% of the replies in the class “a bit unsafe”) (see Figure 17 in the appendices D-M).

*Perceived access to information on chemical safety issues in the working environment (question 14 in the consumer questionnaire)*

Many participants said that this question was not applicable to their work, but out of those for whom it was relevant, a good number in Davao (the Philippines), Durban (South Africa), Kirovohrad (Ukraine), Kyiv (Ukraine), Stockholm (Sweden), Toronto (Canada), Yaremche (Ukraine) replied that they have “adequate” access to information (see Figure 18 in the appendices D-M). In Davao (the Philippines), Delhi (India), Kirovohrad (Ukraine) and Stockholm (Sweden) an approximate similar share of the participants replied “adequate” or “none at all” (see Figure 18 in the appendices D-M). In Bangkok (Thailand) and Mukono (Uganda), most participants thought that access to information is “lacking”, and in Bizerte (Tunisia), Kampala (Uganda), and São Paulo (Brazil) most participants replied “none at all” (see Figure 18 in the appendices D-M).

*Safety practices and measures in place at the work place (question 15 in the consumer questionnaire)*

A good number of participants, for whom this question was relevant, had access to chemical safety training, personal protection equipment, and stated that there are readable warning signs in dangerous places (see Figure 19 in the appendices D-M). The access to a person or department responsible for controlling chemical safety issues at the work

place, and for aftercare of employees exposed to hazardous chemicals, was variable (see Figure 19 in the appendices C-L). A major exception seems to be Uganda. The majority of the participants in both Kampala and Mukono replied “no” to the different sub-questions of question 15 (see Figure 19 in the appendices M a) and M b)).

### Section 3 of the consumer poll

*Ranking of reliability of sources used for information on chemical safety issues. (question 16 in the consumer questionnaire)*

The poll participants ranked the reliability using eight levels.

#### *São Paulo*

The respondents in Brazil (São Paulo) did the following ranking (from the most used to the least used sources): 1) academic researchers and scientific organizations (84% of the replies in the four topmost rating classes out of eight), 2) non-governmental organizations (82% of the replies in the four topmost rating classes out of eight), 3) material and product safety data sheets (74% of the replies in the four topmost rating classes out of eight), 4) governmental authorities (59% of the replies in the four topmost rating classes out of eight), 5) magazines and newspapers (39% of the replies in the four topmost rating classes out of eight), 6) co-workers (23% of the replies in the four topmost rating classes out of eight), 7) television and radio (21% of the replies in the four topmost rating classes out of eight), and 8) family members (19% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix D).

#### *Ottawa*

The respondents in Canada (Ottawa) did the following ranking (from the most used to the least used): 1) academic researchers and scientific organizations (98% of the replies in the four topmost rating classes out of eight), 2) government (97% of the replies in the four topmost rating classes out of eight), 3) material and product safety data sheets (91% of the replies in the four topmost rating classes out of eight), 4) magazines and newspapers (88% of the replies in the four topmost

rating classes out of eight), 5) non-governmental organizations (62% of the replies in the four topmost rating classes out of eight), 6) co-workers (11% of the replies in the four topmost rating classes out of eight), 7) family members (8% of the replies in the four topmost rating classes out of eight), and 8) television and radio (5% the replies in the four topmost rating classes out of eight 3) (see Figure 20, Appendix E a)).

#### *Toronto*

The respondents in Canada (Toronto) did the following ranking (from the most used to the least used): 1) academic researchers and scientific organizations (75% of the replies in the four topmost rating classes out of eight), 2) government and non-governmental organizations (71% each of the replies in the four topmost rating classes out of eight), 3) material and product safety data sheets (67% of the replies in the four topmost rating classes out of eight), 4) magazines and newspapers (38% of the replies in the four topmost rating classes out of eight), family members (35% of the replies in the four topmost rating classes out of eight), 5) television and radio (27% the replies in the four topmost rating classes out of eight), and co-workers (17% the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix E b)).

#### *Delhi*

The respondents in India (Delhi) did the following ranking (from the most used to the least used): 1) magazines and newspapers (70% of the replies in the four topmost rating classes out of eight), 2) television and radio (66% of the replies in the four topmost rating classes out of eight), 3) government (55% of the replies in the four topmost rating classes out of eight), 4) non-governmental organizations (48% of the replies in the four topmost rating classes out of eight), 5) academic researchers and scientific organizations (47% of the replies in the four topmost rating classes out of eight), 6) family members (44% of the replies in the four topmost rating classes out of eight), 7) co-workers (36% of the replies in the four topmost rating classes out of eight), and 8) material and product safety data sheets (33% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix F).

*Davao*

The respondents in the Philippines (Davao) did the following ranking (from the most used to the least used): 1) government (81% of the replies in the four topmost rating classes out of eight), 2) material and product safety data sheets (63% of the replies in the four topmost rating classes out of eight), 3) television and radio (61% the replies in the four topmost rating classes out of eight), 4) academic researchers and scientific organizations (53% of the replies in the four topmost rating classes out of eight), non-governmental organizations (52% of the replies in the four topmost rating classes out of eight), magazines and newspapers (38% of the replies in the four topmost rating classes out of eight), family members (29% of the replies in the four topmost rating classes out of eight), and co-workers (22% the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix G).

*Durban*

The respondents in South Africa (Durban) did the following ranking (from the most used to the least used): 1) academic researchers and scientific organizations (59% of the replies in the four topmost rating classes out of eight), 2) non-governmental organizations (57% each of the replies in the four topmost rating classes out of eight), 3) government (56% of the replies in the four topmost rating classes out of eight), 4) material and product safety data sheets (53% of the replies in the four topmost rating classes out of eight), 5) magazines and television and radio (50% each the replies in the four topmost rating classes out of eight), and 6) co-workers (39% of the replies in the four topmost rating classes out of eight), and 7) family members (36% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix H).

*Stockholm*

The respondents in Sweden (Stockholm) did the following ranking (from the most used to the least used): 1) academic researchers and scientific organizations (90% of the replies in the four topmost rating classes out of eight), 2) government and non-governmental organizations (79% each of the

replies in the four topmost rating classes out of eight), 3) material and product safety data sheets (56% the replies in the four topmost rating classes out of eight), 4) magazines and newspapers (29% of the replies in the four topmost rating classes out of eight), 5) television and radio (24% the replies in the four topmost rating classes out of eight), 6) co-workers (23% the replies in the four topmost rating classes out of eight), and 7) family members (21% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix I).

*Bangkok*

The respondents in Thailand (Bangkok) did the following ranking (from the most used to the least used): 1) television and radio (77% the replies in the four topmost rating classes out of eight), 2) magazines and newspapers (74% of the replies in the four topmost rating classes out of eight), 3) family members (63% of the replies in the four topmost rating classes out of eight), 4) co-workers (50% the replies in the four topmost rating classes out of eight), 5) government (41% of the replies in the four topmost rating classes out of eight), 6) material and product safety data sheets (40% the replies in the four topmost rating classes out of eight), 7) academic researchers and scientific organizations (31% of the replies in the four topmost rating classes out of eight), and non-governmental organizations (25% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix J).

*Bizerte*

The respondents in Tunisia (Bizerte) did the following ranking (from the most used to the least used): 1) academic researchers and scientific organizations (69% of the replies in the four topmost rating classes out of eight), 2) government (67% of the replies in the four topmost rating classes out of eight), 3) television and radio (56% the replies in the four topmost rating classes out of eight), 4) and co-workers material and product safety data sheets (52% each the replies in the four topmost rating classes out of eight), 5) non-governmental organizations (47% of the replies in the four topmost rating classes out of eight), 6) family members (31% of the replies in

the four topmost rating classes out of eight), and 7) magazines and newspapers (26% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix K).

#### *Kampala*

The respondents in Uganda (Kampala) did the following ranking (from the most used to the least used): 1) government (85% of the replies in the four topmost rating classes out of eight), 2) non-governmental organizations (79% of the replies in the four topmost rating classes out of eight), 3) television and radio (60% the replies in the four topmost rating classes out of eight), 4) academic researchers and scientific organizations (57% of the replies in the four topmost rating classes out of eight), 5) material and product safety data sheets (53% the replies in the four topmost rating classes out of eight), 6) magazines and newspapers (28% of the replies in the four topmost rating classes out of eight), 7) family members (20% of the replies in the four topmost rating classes out of eight), and 8) co-workers (18% the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix L a)).

#### *Mukono*

The respondents in Uganda (Mukono) did the following ranking (from the most used to the least used): 1) government (95% of the replies in the four topmost rating classes out of eight), 2) academic researchers and scientific organizations and non-governmental organizations (81% each of the replies in the four topmost rating classes out of eight), 3) material and product safety data sheets (51% of the replies in the four topmost rating classes out of eight), 4) television and radio (39% the replies in the four topmost rating classes out of eight), 5) magazines and newspapers (20% each of the replies in the four topmost rating classes out of eight), and 6) family members and co-workers (17% the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix L b)).

#### *Kirovohrad*

The respondents in Ukraine (Kirovohrad) did the following ranking (from the most used to the least used): 1) magazines

and newspapers (81% of the replies in the four topmost rating classes out of eight), 2) television and radio (79% the replies in the four topmost rating classes out of eight), 3) family members (59% of the replies in the four topmost rating classes out of eight), 4) government (48% of the replies in the four topmost rating classes out of eight), 5) non-governmental organizations (46% of the replies in the four topmost rating classes out of eight), 6) material and product safety data sheets (41% the replies in the four topmost rating classes out of eight), 7) academic researchers and scientific organizations (27% of the replies in the four topmost rating classes out of eight), 8) co-workers (19% the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix M a)).

#### *Kyiv*

The respondents in Ukraine (Kyiv) did the following ranking (from the most used to the least used): 1) academic researchers and scientific organizations (69% of the replies in the four topmost rating classes out of eight), 2) non-governmental organizations 62% of the replies in the four topmost rating classes out of eight), 3) material and product safety data sheets (60% the replies in the four topmost rating classes out of eight), 4) family members (55% of the replies in the four topmost rating classes out of eight), 5) television and radio (47% the replies in the four topmost rating classes out of eight), 6) co-workers (41% the replies in the four topmost rating classes out of eight), 7) magazines and newspapers (36% of the replies in the four topmost rating classes out of eight), and government (31% of the replies in the four topmost rating classes out of eight) (Figure 20, Appendix M b)).

#### *Yaremche*

The respondents in Ukraine (Yaremche) did the following ranking (from the most used to the least used): 1) material and product safety data sheets (73% the replies in the four topmost rating classes out of eight), 2) academic researchers and scientific organizations (71% of the replies in the four topmost rating classes out of eight), 3) non-governmental organizations 64% of the replies in the four topmost rating classes out of eight), 4) government (56% of the replies in the four topmost rating classes out of eight), 5) television and radio (43%

the replies in the four topmost rating classes out of eight), 6) co-workers and magazines and newspapers (33% each of the replies in the four topmost rating classes out of eight), and 7) family members (28% of the replies in the four topmost rating classes out of eight) (see Figure 20, Appendix M c)).

*Trust in the source of verification that a product is free from hazardous chemicals (question 17 in the consumer questionnaire)*

The poll participants ranked the trust using three levels.

#### *São Paulo*

In Brazil (São Paulo), the participants ranked in the following order (from the highest trust to the lowest): 1) independent bodies, e.g. academic institutions and non-governmental organizations (65% of the replies in the topmost rating class out of three), 2) government competent authorities (24% of the replies in the topmost rating class out of three), and 3) companies (10% of the replies in the topmost rating class out of three) (see Figure 21, Appendix D).

#### *Ottawa*

In Canada (Ottawa), the participants ranked in the following order (from the highest trust to the lowest): 1) independent bodies, for example, academic institutions and non-governmental organizations (56% of the replies in the topmost rating class out of three), 2) government competent authorities (39% of the replies in the topmost rating class out of three), and 3) companies (5% of the replies in the topmost rating class out of three) (see Figure 21, Appendix E a)).

#### *Toronto*

In Canada (Toronto), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (40% of the replies in the topmost rating class out of three), 2) independent bodies, for example, academic institutions and non-governmental organizations (33% of the replies in the topmost rating class out of three), 3) companies (27% of the replies in the topmost rating class out of three) (see Figure 21, Appendix E b)).

#### *Delhi*

In India (Delhi), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (62% of the replies in the topmost rating class out of three), 2) companies (19% of the replies in the topmost rating class out of three), and 3) independent bodies, for example, academic institutions and non-governmental organizations (18% of the replies in the topmost rating class out of three), (see Figure 21, Appendix F).

#### *Davao*

In the Philippines (Davao), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (50% of the replies in the topmost rating class out of three), 2) companies (31% of the replies in the topmost rating class out of three), 3) independent bodies, for example, academic institutions and non-governmental organizations (19% of the replies in the topmost rating class out of three) (see Figure 21, Appendix G)).

#### *Durban*

In the South Africa (Durban), the participants ranked in the following order (from the highest trust to the lowest): 1) independent bodies, for example, academic institutions and non-governmental organizations (39% of the replies in the topmost rating class out of three), 2) companies (32% of the replies in the topmost rating class out of three), and 2) government competent authorities (29% of the replies in the topmost rating class out of three), and (see Figure 21, Appendix H).

#### *Stockholm*

In Sweden (Stockholm), the participants ranked in the following order (from the highest trust to the lowest): 1) independent bodies, for example, academic institutions and non-governmental organizations (54% of the replies in the topmost rating class out of three), 2) government competent authorities (40% of the replies in the topmost rating class out of three), and 3) companies (5% of the replies in the topmost rating class out of three) (see Figure 21, Appendix I).



*Bangkok*

In Thailand (Bangkok), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (62% of the replies in the topmost rating class out of three), 2) independent bodies, for example, academic institutions and non-governmental organizations (33% of the replies in the topmost rating class out of three), 3) companies (5% of the replies in the topmost rating class out of three) (see Figure 21, Appendix J).

*Bizerte*

In Tunisia (Bizerte), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (49% of the replies in the topmost rating class out of three), 2) independent bodies, for example, academic institutions and non-governmental organizations (33% of the replies in the topmost rating class out of three), 3) companies (19% of the replies in the topmost rating class out of three) (see Figure 21, Appendix K).

*Kampala*

In Uganda (Kampala), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (49% of the replies in the topmost rating class out of three), 2) independent bodies, for example, academic institutions and non-governmental organizations (43% of the replies in the topmost, and 3) companies (8% of the replies in the topmost rating class out of three) (see Figure 21, Appendix L a)).

*Mukono*

In Uganda Mukono), the participants ranked in the following order (from the highest trust to the lowest): 1) government competent authorities (53% of the replies in the topmost rating class out of three), 2) companies (25% of the replies in the topmost, and 3) independent bodies, for example, academic institutions and non-governmental organizations (20% of the replies in the topmost rating class out of three) (see Figure 21, Appendix L b)).

*Kirovohrad*

In Ukraine (Kirovohrad), the participants ranked in the following order (from the highest trust to the lowest): 1) companies (36% of the replies in the topmost rating class out of three), 2) government competent authorities and independent bodies, for example, academic institutions and non-governmental organizations (both 33% of the replies in the topmost (see Figure 21, Appendix M a)).

*Kyiv*

In Ukraine (Kyiv), the participants ranked in the following order (from the highest trust to the lowest): 1) independent bodies, for example, academic institutions and non-governmental organizations (79% of the replies in the topmost rating class out of three), 2) government competent authorities (14% of the replies in the topmost rating class out of three), and 3) companies (7% of the replies in the topmost rating class out of three) (see Figure 21, Appendix M b)).

*Yaremche*

In Ukraine (Yaremche), the participants ranked in the following order (from the highest trust to the lowest): 1) independent bodies, for example, academic institutions and non-governmental organizations (79% of the replies in the topmost rating class out of three), 2) companies 34% of the replies in the topmost rating class out of three), 3) companies (18% of the replies in the topmost rating class out of three) (see Figure 21, Appendix M c)).

*Responsible actors for chemical safety issues (question 18 in the consumer questionnaire)*

The participants gave the opinion on who they think should bear the responsibility for assuring that products are safe to health and the environment, with respect to chemicals. The respondents could chose several of four listed actors (producers of chemicals, users of chemicals in the production of products, national decision makers, and international decision makers). Most participants gave approximately equal importance to all actors, usually with a slight preference for national decision makers and producers of products.

# Results company poll

The industry questionnaire consists of three major sections: the first addresses information sharing on chemicals from producers of chemicals; the second how users of chemicals, for chemical formulations (such as personal hygiene, beauty, and household cleaning products) and manufactured products (such as electronics, textiles, and interior design items), perceive access to safety information on chemicals and in turn deal with information sharing to their customers; and the third deals with company perceptions of the impact of legislation on their respective businesses. The presentation of the results is structured accordingly.

Due to the large amount of data collected in this poll, the results are not presented individually in running text in the report, rather only as graphs with explaining figure captions, for a selection of questions from the questionnaires, in the appendices N-X. General patterns and some country specific observations are mentioned in the following paragraphs. Thus, this report should be considered only to be a first glimpse into the potential information contained in the collected data.

## Section 1 of the company poll

*Chemical producers providing material safety data sheets (question 5 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

In general, few producers of chemicals participated in the poll. The majority of those who did, said that they provide material safety data sheets, for example Globally Harmonized System for Classification and Labelling of Chemicals (GHS) formatted, to their customers (see Figure 2 in the appendices N-X). A number of companies, though, seem not to have this practice (see Figure 2 in the appendices N-X). Notably in South Africa and Sweden, half of the participants did not provide material safety data sheets for the domestic market, and in Ukraine 30% (see Figure 2 in the appendices N-X).

*Chemical producers providing their customers with chemical safety training (question 6 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

A good number of the participating companies offer chemical safety training for their customers, but again notably a number of South African, Swedish and Ukrainian companies said that they do not do it for the domestic market (see Figure 3 in the appendices N-X).

## Section 2 of the company poll

*Chemical formulation producers providing their customers with chemical safety training (question 7 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

A good number of the participating companies said that they provide material safety data sheets, for example GHS formatted, to their customers (see Figure 4 in the appendices N-X). Yet, notably in Brazil (50% of the companies), Tunisia (35% of the companies), South Africa (25% of the companies), the Philippines (20% of the companies) said that they do not do it for the domestic market, while in Uganda (22% of the companies) said that they do not do it for foreign markets (see Figure 4 in the appendices N-X).

*Product manufacturers requesting chemical safety information from their suppliers of chemicals (question 8 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the

domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

Most companies replied that they ask for safety information (see Figure 5 in the appendices N-X).

*Companies that get chemical safety training from their suppliers of chemicals (question 9 in the company questionnaire)*

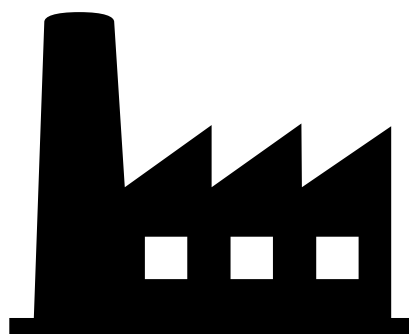
The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

Many participating companies said that their suppliers provide this, but notably in Tunisia (46% of the domestic market companies; 38% of the foreign markets companies), Sweden (33% of the domestic market companies), Canada (25% of the domestic market companies), and South Africa (25% of the domestic market companies), many companies lacked this service (see Figure 6 in the appendices N-X).

*Companies that use chemicals and that provide their employees with chemical safety training (question 10 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

A good number of participants said that they provide chemical safety training to their employees, but notably in Tunisia (75% of the domestic market companies; 63% of foreign market companies), Sweden (42% of the domestic market companies) and South Africa (25% of the domestic market companies) several companies replied that they do not have this practice in place (see Figure 7 in the appendices N-X).



*Product manufacturers providing their customers with product safety data sheets (question 11 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

A good number of the participating companies do not provide material safety data sheets to their customers (see Figure 8 in the appendices N-X).

*Product manufacturers requesting product safety data sheets from suppliers of components of their products (question 12 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

It seems to be common practice among a number of the participating companies to request product safety data sheets from suppliers of components of their products (see Figure 9 in the appendices N-X). However, notably in Tunisia (52% of the domestic market companies; 41% of the

foreign market companies), South Africa (25% of the domestic market companies), and in India (20% of the domestic market companies) many companies lacked this practice.

### Section 3 of the company poll

*Perception of chemical producers, producers of formulations and product manufacturers if they are responsible by law to ensure products that are safe to health and environment (question 13 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

In all countries but Canada, the majority of the participants said that they have a legal responsibility (see Figure 10, in the appendices N-X). The majority of the Canadian companies said they have no legal responsibilities (see Figure 10, appendix O). In, notably, South Africa, Tunisia, and Uganda, a good share of the participants did not know if they have legal responsibilities (see Figure 10 in the appendices R, U, and V).

*Chemical producers, producers of formulations and product manufacturers applying voluntary models for substitution of hazardous chemicals (question 14 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

In most countries, approximately half, or slightly more than that, were involved in substitution programmes (see Figure 11 in the appendices N-X). In South Africa and Tunisia, though, most companies said that they do not work with substitution (see Figure 11 in the appendices R and U).

*Perception of moral responsibility by a company to ensure products that are safe to health and environment (question 15 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

Most participating companies feel that they have a moral responsibility (see Figure 12 in the appendices N-X), although a notably high share (22%) of the Canadian companies replied that they feel no moral responsibility for the chemical safety of products that they sell in foreign markets (see Figure 12 in the appendix O).

*Company perceptions of the impact of stronger national legislation on their respective competitiveness in the national market (question 16 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

With a bit of generalization, participating companies from low and middle income countries (Brazil, India, the Philippines, Tunisia, Uganda and Ukraine) said that stronger national legislation would have a positive effect on their competitiveness (see Figure 13 in the appendices N-X). South Africa and Thailand were the only clear exceptions among the low and middle income countries (see Figure 13 in the appendix R and T). In South Africa equal shares of the domestic market companies said that stronger national legislation would have a positive effect or that it would have no effect (33% each), and a major share of the foreign markets companies said it would have no effect. In Thailand, the domestic market companies said that stronger national legislation would have no effect on their competitiveness, and the foreign market companies were hesitating (62% replied

“not at all” or “I do not know”). In Sweden, domestic market companies were hesitating (36% replied “not at all”; 36% “I do not know”), while equal shares of foreign market companies said that stronger national legislation would have a positive effect or no effect at all (67% each) (see Figure 13 in the appendix S). In Canada, the domestic market companies said that stronger chemicals legislation nationally would improve their competitiveness, but most foreign market companies were uncertain about the effects (see Figure the appendix O).

*Company perceptions of the impact of stronger national legislation on their respective competitiveness in foreign markets (question 17 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

A similar reply pattern as for question 16 was observed. With a bit of generalization, participating companies from low and middle income countries (Brazil, India, the Philippines, Tunisia, Uganda and Ukraine) said that stronger national legislation would have a positive effect on their competitiveness (see Figure 14 in the appendices N-X). Again, South Africa and Thailand were exceptions (see Figure 14 in the appendix R and T). In South Africa equal shares of the domestic market companies said that stronger national legislation would have a positive effect or that it would have no effect (33% each), and a major share of the foreign markets companies said it would have no effect. In Thailand, equal shares of the domestic market companies said that stronger national legislation would have a positive effect or that it would have a negative effect (33% each), while a good share of foreign markets companies said that it would have a positive effect (38%), and a good share that it would have no effect (31%) or that they do not know (31%). In Sweden, the national market companies were hesitating (most replied “not at all” or “I do not know”); foreign market companies of differing opinions (50% positive; 50% nega-

tive) (see Figure 14 in the appendix S). In Canada, domestic market companies had differing opinions (29% each replied “positively”, “not at all”, and “I do not know”), just like the foreign market companies (33% each replied “not at all”, “negatively”, and “I do not know”) (see Figure 14 in the appendix O).

*Company perceptions of the impact of stronger international legislation on their respective competitiveness in the national market (question 18 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

The results are somewhat similar to those from question 16. In many low and middle income countries (Brazil, India, the Philippines, Uganda and Ukraine), many participating companies believed that a stronger international legislative regime for chemicals would be beneficial for their competitiveness in their respective domestic markets (see Figure 15 in the appendices N-X). South Africa and to some degree Thailand again differed from this generalized observation (see Figure 15 in the appendices R and T). Still, in Thailand a good share of the national market companies (67%) had a positive view, while foreign market companies were more uncertain (see Figure 15 in the appendix T). In high income countries, like Canada and Sweden, the participating companies were also more uncertain, yet still a good number said it would be positive for their competitiveness (29% of the Canadian domestic market companies; 50% of the Swedish foreign market companies) (see Figure 15 in the appendices O and S).

*Company perceptions of the impact of stronger international legislation on their respective competitiveness in foreign markets (question 19 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the

domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

The results are somewhat similar to those from questions 17. In many low and middle income countries (Brazil, India, the Philippines, Uganda and Ukraine), many participating companies believed that a stronger international legislative regime for chemicals would be beneficial for their competitiveness in the domestic markets (see Figure 16 in the appendices N-X). South Africa and Thailand again differed from this generalized observation (see Figure 16 in the appendices R and T). In Sweden, equal shares of foreign markets companies believed that a stronger international legislation would have a positive effect and no effect at all (50% each) (see Figure 16 in the appendix S). In Canada, the domestic market companies were positive, while foreign market companies had differing views (see Figure 16 in the appendix O).

*Company perceptions of how stronger legislation would affect their invention rate (question 20 in the company questionnaire)*

The data was analyzed with respect to producers for the domestic market (>50% of the annual turnover from the domestic market) (hereinafter labelled “domestic market companies”) and for foreign markets (>50% of the annual turnover for foreign markets) (hereinafter labelled “foreign markets companies”).

In most countries, the option “probably” got a good share of the replies (see Figure 17 in the appendices N-X). In some countries, notably Sweden and Thailand, there was also a good share of replies for the option “definitely” (see Figure 17 in the appendices S and T), particularly for companies that are focused on export markets.

# Discussion

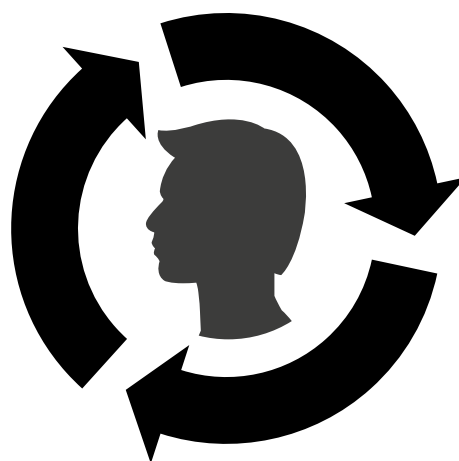
The division of the discussion into different sections largely follows that of the major sections of the questionnaire, with the addition a section on further analyses of the consumer data, a section with general reflections on the company data, and a section with conclusions and recommendations.

## Section 1 of the consumer poll

### *Chemicals in products*

It is clear from this study that consumers in all covered cities/towns were concerned about the potential contents of chemicals hazardous to health and the environment in consumer products (see Figure 16 in the appendices D-M). This concern may be an expression of a general lack of transparency from companies and authorities, lack of public knowledge of the relevant legal frameworks and institutional arrangements to secure enforcement of and compliance with the laws, or public knowledge of actual shortages in the legal frameworks and institutional arrangements, and company policies. It may also relate to the gaps in the knowledge about health and environmental effects of many chemicals that are already on the market and in widespread use. No matter what the reasons behind the poll results are, decision makers and companies should take them as a clear signal that ordinary consumers want transparency and want to see changes.

As consumers in many low and middle countries become increasingly well-organized, they will increase demands for safer products and can use their growing purchasing power as a driver of change, just like has already happened in many high income countries. Companies unable to match new demands, will lose markets. Companies that act proactively and substitute harmful chemicals, that are transparent about what chemicals their products contain, may reduce or avoid legal liabilities arising from lack of information, will gain goodwill and may increase market shares as a bonus. A key component in realizing good chemical management, is to secure access to information to all relevant stakeholders within and outside the supply chains, and in relevant form. With access to information, hazards can be better managed, to minimize risks for workers, consumers, and the environment. As many countries strive for more



circular economies, in which materials are recovered or reused to high degrees, it becomes ever more important that companies supplying components for composite products (assembled of many components, often from many suppliers) are transparent to their downstream users about the chemical composition of their products, as well as to stakeholders in the recycling business, to facilitate safe recovery and reuse. Another aspect of information exchange is the presentation of relevant information to consumers and other interest groups. In the EU and other high-income countries, for example, there is a requirement for ingredient lists on personal hygiene and cosmetic products. This kind of requirement should be expanded to even more product categories, to facilitate informed purchasing choices among consumers, and proper handling of the products throughout their life cycles. But this requires careful considerations, not to overload the consumers with information, and to suggest how that could be done is beyond the scope of this report. Transparency, anyway, is a win-win situation for all stakeholders in society, as well as for our health and the environment.

Within the frames of SAICM, an initiative called the Chemicals in Products Programme to enhance this kind of information exchange, as part of good management of chemicals throughout the life cycle of products, was re-

cently finalized and adopted by the SAICM stakeholders. It outlines a format for information exchange within and outside supply chains, including takes into consideration what can be confidential business information and how it should be handled. For more details, read the Chemicals in Products Programme Document<sup>10</sup>, and the guidance document for stakeholders on exchanging chemicals in products information<sup>11</sup>. In line with the risk reduction objectives of §14 of the SAICM Overarching Policy Strategy<sup>12</sup>, participants are free to choose the chemicals to include in the information exchange. Which chemicals can be included may be limited by differing regulations between countries and regions. Ambitious participants, however, should, whenever possible and feasible, go beyond the minimal requirements of legally restricted chemicals, and also use lists of chemicals proposed for restriction. The European Union (EU) candidate list<sup>13</sup>, listing chemicals classified as “substances of very high concern”<sup>14</sup> and that are earmarked for phase out or special authorization within the EU, the SIN list<sup>15</sup> – an even more comprehensive shadow list to the Candidate list – based on the EU classification criteria for “substances of very high concern”, and the TEDX list<sup>16</sup> of endocrine disrupting chemicals are a few useful lists. Companies can also use such lists to identify the most hazardous chemicals that should be substituted by less hazardous alternatives. Many companies in the EU, for example, use the SIN list proactively for phasing out harmful chemicals, in anticipation of their likely future listing to the Candidate list. In the homepage of the International Chemicals Secretariat (ChemSec) – the Swedish NGO that created the SIN list – is also a useful online guide for textile producers who want to evaluate the safety of the chemicals used in their production<sup>17</sup>. The principles of reasoning in this guide may also be of inspiration to other businesses that want to map the potential health and environmental hazards of the chemicals used in their production, and start working with substitutions.

The study also gave indications of gaps in public knowledge about various products in the participating cities. This can help the participating organizations to identify which awareness raising efforts could be suitable.

Many poll participants in low and middle income countries believed that food and beverages may contain harmful chemicals for health and the environment, in particular for the environment (see the paragraph in the discussion on this product category, section 1 of the consumer poll). One may speculate that the slightly higher concern for the environment may be due to the fact that they mainly associate the production of food and some crop-based beverages with pesticide use, and that they know that sources of potable water may be contaminated by pesticides. However, there are many additional sources of man-made potentially hazardous chemicals to food and beverages: food contact materials in which the food is processed or stored in<sup>18</sup>; deliberately added food additives, such as preservatives, antioxidants, colorants, aromas, sweeteners, thickeners and emulsifiers<sup>19, 20</sup>; and drinking water may be contaminated by heavy metals from old metal piping, or organic chemicals, such as Bisphenol A from some relining materials<sup>21</sup>. In many countries the use of food additives is regulated by government authorities, but additives that are allowed in one country may be prohibited in another, due to differences in doing risk assessments and evaluating data. It may be worth considering to raise the awareness about other potential sources of chemicals than pesticides to food and beverages. The reason why many participants in the high income countries in this study seemed to be less worried about the chemical safety of food and beverages might be due to a higher trust in compliance with regulations, a better infrastructure for food and water processing, better infrastructure for water supplies, better access to information, as well as ready access to organic food.

Although many poll participants seemed to be aware of the fact that personal hygiene products, cosmetics, beauty products, and perfumes may contain chemicals harmful to health and the environment, a good number replied that they believe that the magnitude of exposure is low (replies in the class “not very much”) (see the paragraph in the discussion on this product category, section 1 of the consumer poll). These kinds of products are often applied directly onto the skin, which calls for precaution. Some components, notably dyes, fragrance components, and preservatives may be allergenic<sup>22, 23, 24</sup>. The chemicals are then washed into sew-



ers, when we shower or take a bath. Preservatives, antioxidants, fragrance components, chelating agents, and surfactants, among others, are not seldom toxic to aquatic organisms<sup>25, 26, 27, 28</sup>, and the mother substances, or their breakdown products, may be persistent in the environment. A number of components found in these product categories are known or suspected endocrine disruptors<sup>29, 30</sup>, that is to say have the possibility to interfere with the production or turnover of hormones, and their access to hormone binding cell receptors in organisms. Nano materials in this product group are an emerging issue<sup>31</sup>, potentially of concern. There is need for more awareness raising about potential hazards with this product category.

In some of the cities/towns covered by this poll, the participants seemed to have a low awareness of potential health and environmental hazards from household cleaning products (see the paragraph in the discussion on this product category, section 1 of the consumer poll), which shows that there is need for awareness raising. Household cleaning products are chemical formulations that may contain similar components as personal hygiene products, cosmetics, beauty products, and perfumes, but since they are not intended to be applied onto the skin, there may be tradeoffs with respect to health, as the function of the product is often put foremost. Many cleaning products, consequently, contain hazardous components, both to health and the environment.

Waste from electronic and electrical products is a well-known issue in many low and middle income countries, where it often supports large informal recycling sectors, but often with poor working conditions and poor environmental consideration. Many consumers, therefore probably, associate this product category with environmental issues. It is obvious from this study that the participants generally were aware of the potential environmental hazardous from chemicals in his product category, but interestingly, a good share of the replies show that they were not very concerned about health (see the paragraph in the discussion on this product category, section 1 of the consumer poll). Electronic and electrical products are composite products of usually metals, plastics and glass. Many plastics, by law, need to be flame proofed, by addition of flame retardants, and PVC plastics

need to be softened with plasticizers. Halogenated flame retardants are known for their environmental persistence, ability to bio-magnify in food chains, and toxic qualities<sup>32, 33</sup>. Some of the phthalate plasticizers are suspected or known endocrine disruptors<sup>34</sup>. Halogenated flame retardants and phthalates are semi-volatile compounds that can migrate from the products to which they were applied to the air and indoor dust<sup>35</sup>. In at least a few of the cities/towns covered by this poll, there is room for more awareness raising about potential health effects from this product category.

Children's toys are often composite products. They may contain metals, plastics, and textiles, for example, and all associated chemicals that come with that (noting that metals are chemical elements themselves). There have been numerous reports on toys containing hazardous chemicals in the past decade, both scientific, by non-governmental organizations and other investigative entities. Yet, the awareness about hazardous chemicals in toys seems not to be very good in the cities and towns included in this study, people neglect the facts, or believe that the situation has improved after all alarms (see the paragraph in the discussion on this product category, section 1 of the consumer poll). Any of these explanations can be valid. In the EU, for example, the Toys Safety Directive regulates the chemicals that EU producers can use in toys, and other high income countries have similar legislations. However, the legislation in high income countries may give a false sense of security, as most toys are imported and are produced in countries where the corresponding legislation may not have the corresponding health standards as in high income countries, or even be missing. There is definitely room for more awareness raising on the potential health and environmental hazards from chemicals in toys.

Textiles and leather goods is another product category nowadays mainly produced by low and middle income countries. Both businesses use large amounts of chemicals, for preparing textile fibers and hides, for dyeing, and to give the products the final finish<sup>36, 37, 38</sup>, with potentially serious environmental and health issues as consequences, particularly in the producing countries. A number of reports, by scientists, non-governmental organizations and other investigative entities, in the past decade have shown that hazardous or even

banned chemicals are also imported in textiles and leather. An illustrating example of the issue is the recent EU ban of nonylphenoxyethoxylates in imported textiles<sup>39</sup>. The use of this group of chemicals with endocrine disrupting degradation products was already strictly regulated by REACH, but inputs to the environment from imported textiles still a problem. The ban is supposed to address the issue, but the law is not yet fully enforced. It is clear from this poll that the awareness of the potential hazards from chemicals in textiles and leathers in general was low among the participants in the poll (see the paragraph in the discussion on this product category, section 1 of the consumer poll). There is definitely need for more awareness raising on the potential health and environmental hazards from chemicals in this product category, as it is also consumed in large volumes.

Most participants in this study did not see shoes as a particularly significant source of hazardous chemicals (see the paragraph in the discussion on this product category, section 1 of the consumer poll). But shoes, as composite products from leather, plastics, textiles, and other materials, share the potential health and environmental issues that may come with the constituent materials. In addition, shoes contain glues and are often treated with water and dirt repellent treatments, many of which contain chemicals that are hazardous, are suspected to be so, or are very persistent<sup>40, 41</sup>. A few years back, SSNC did a report on leather shoes, which gives an introduction to some health and environmental aspects of shoes<sup>42</sup>. There is room for more awareness raising on the potential health and environmental hazards from chemicals in this product category, although it is perhaps not the first product category to prioritize.

There seems to be variable needs for awareness raising on potential health and environmental hazards from chemicals in furniture and interior design items (see the paragraph in the discussion on this product category, section 1 of the consumer poll). However, just like shoes, it is perhaps not the first product category to prioritize. Furniture and interior design items are a very diverse category of often composite products. They can include wood, glass, ceramics, plastics, textiles and leather, and other materials, carrying the chemicals used in the production of the materials,

as well as glues, conditioning and finishing chemicals, such as paints and varnishes on wood, phthalates and other softeners in PVC plastics, and flame retardants, as some countries requires flame proofing of some categories of furniture. At least in colder climates, buildings tend to be well-isolated, restricting the exchange of air and, thus, allowing concentrations of chemicals released from furniture and interior design items to build up indoors<sup>43</sup>.

The issue of chemicals in kitchen utensils and food storage materials is directly linked to chemicals in food and beverages. This study indicated variable needs for awareness raising on potential chemical hazards from this product category, and that many consumers perhaps are not fully aware of the link between chemicals in food and beverages and the materials that the food and beverages were in contact with during preparation and storage (see the paragraph on this product category in the results, section 1 of the consumer poll). Kitchen utensils and food storage materials are a diverse category of products, but with lots of plastics. Plastics is one way of approaching the topic. Plastics may under certain conditions release unreacted monomers (building blocks) of the plastic polymers, or precursors of the monomers, to food and beverages. Many plastics also contain additives, chemicals that give the plastics their final qualities, and that may be mobilized to food and beverages, for example upon heating the plastics. For a comprehensive review of plastic materials, read the SSNC report *Everything you (don't) want to know about plastics*<sup>44</sup>.

Equipment at work can be anything from machinery using oils, dyes, paints, varnishes, printing inks, for example, or tools dipped into such chemical formulations, to felt pens and other items in an office environment. The results for this product category were highly variable (ranging from predominantly replies in the classes "not very much", to "a great deal"), indicating perhaps that it was ill-defined and that the participants interpreted it differently (see the paragraph in the discussion on this product category, section 1 of the consumer poll). Many of the participants, though, believed that the equipment at work may contain chemicals hazardous to the environment. Awareness raising, if deemed necessary, could be done for more well-defined sub-categories of products.

Building materials is a product category that often has not been given proper attention with respect to the content of hazardous chemicals. One explanation for this might be that many building companies lack proper in house chemical expertise, and that there has not been demand strong enough from customers for safe materials. But this is changing, at least in many high income countries. Initiatives to improve the health and environmental profile of the building business is underway, such as the creation of the BASTA register for building materials in Sweden, co-jointly developed by a third party certifier and the industry<sup>45</sup>. In cold climates, where buildings tend to be well-isolated, the exchange of air may be restricted, which allows for concentrations of chemicals released from building materials to build up indoors. It is, therefore, important to eliminate hazardous chemicals in building materials, and not only in cold climates. Semi-volatile chemicals are more mobile at higher temperatures<sup>46</sup>, and may then be more easily released from materials.

The study showed that, in general, there was good awareness about potential health and environmental hazards from fuel products, which is good.

When it comes to paints, some results were unexpected. Many low and middle income countries are covered by the work of the Global Alliance in Elimination of Lead in Paint<sup>47</sup>, so one would expect a fairly good awareness there of potential harmful effects of paints. Interestingly, in countries like India and the Philippines, covered by the work of the Global Alliance in Elimination of Lead in Paint, a good number of people Delhi (India) and Davao (the Philippines) seem not to be so concerned about paints (see the paragraph in the discussion on this product category, section 1 of the consumer poll). There is clearly room for more awareness raising.

## Section 2 of the consumer poll

### *Chemical safety in the working environment*

A number of international conventions regulate the rights of workers in the occupational environment. The International Covenant on Civil and Political Rights (CESCR) regulates the right to access to information and also stipulates that workers are entitled to healthy work conditions<sup>48</sup>. According to the

International Labour Organization (ILO) chemicals convention, workers shall have the right to remove themselves from chemical hazards<sup>49</sup>. A prerequisite to safeguard this right is access to information about the chemicals in use at the workplace, hazard labelling of chemicals, personal protection equipment and other risk reduction measures, and training about such measures. United Nations Convention on the Rights of the Child (CRC) stipulates all mentioned rights for children<sup>50</sup>. Informal businesses in low and middle income countries may, with respect to chemicals, have particularly hazardous working conditions for children and endanger their normal development, which is why reference to the ILO Convention on the Worst Forms of Child Labour is very important<sup>51</sup>.

All countries that were covered by this poll are parties of the mentioned conventions, with the exception of the ILO chemicals convention.

The overall impression from the poll is that many companies have good safety practices and measures in place, but still a number of participants were not content (see the three paragraphs in the discussion, section 2 of the consumer poll). A major exception to the overall impression seems to be Uganda. The majority of the participants in both Kampala and Mukono replied “no” to the different sub-questions of question 15 (see the three paragraph on this question in the discussion, section 2 of the consumer poll). People who feel that safety practices and measures are not sufficient, are encouraged to talk to the local labor union, if possible. In Uganda, more substantial advocacy efforts directed to politicians may be needed if the observations are due to general shortages in the labor legislation rather than shortages in labor policies of individual companies.

## Section 3 of the consumer poll

### *Reliability of sources of information, and responsibilities for chemical safety*

In two questions, the participants ranked how reliable they believed that various sources of information about chemical safety issues were.

Without further analyses of the underlying reasons behind

the observations, it is worth noting that the use of government, academic researchers and scientific organizations, and non-governmental organizations as reliable sources of information on chemical safety issues varies between the cities/towns in this study. It is a bit troublesome that academic researchers and scientific organizations, and non-governmental organizations are not seen as reliable sources in some cities/towns. These stakeholders are supposedly independent from the government and as such can provide balanced information, while the government in some countries may choose what information they present to the public. It is also troublesome when low trust is put in material and product safety data sheets. Properly formatted material safety data sheets, for example according to GHS, should be considered to be important sources of information on chemical safety. There is room for public awareness raising on the importance of material and product safety data sheets.

Unexpectedly, in some cities/towns, the participants said that they put higher trust in claims by companies that their products are free from harmful chemicals, than in claims by independent third parties, such as academic researchers. This puts consumers at risk for green washing by companies. Proper ecolabelling, for example, is always done by an independent third party who has no economic interest in the product. In the majority (9 of 14) of the cities/towns, however, companies got the lowest trust.

The last question in the consumer questionnaire dealt with the responsibility issue. Most participants gave approximately equal responsibility to the stakeholders listed in the question. The idea of shared responsibility is sound. National laws are necessary to regulate the use of chemicals in a country, but in an increasingly globalized economy, international legislation is also important for harmonizing standards and levelling the playing field for companies. Particularly hazardous chemicals need to be regulated internationally. However, it would have made sense if more participants thought that producers of chemicals and manufacturer of products should take larger responsibility. It is a necessity to internalize more costs for sound chemicals management to companies. Society can no longer bear the costs for unsound chemicals management caused by com-

panies, and expectations on sound chemicals management should include the complete life cycle of the products that companies produce.

### **Further analyses of the data from the consumer poll**

This is a very comprehensive study that has generated a wealth of data from 14 cities/towns in 10 different countries. It presents many possibilities for analyzing at a more detailed level than is presented in this report. For example, each question in the consumer questionnaire can be analyzed with respect to gender (women, men, and in Canada, Sweden and Uganda some individuals classified themselves as “others”), and further broken down into age classes, number of years of education, and participants who have children, or not, to see if there are differences in opinions and the level of knowledge among the different classes. The organizations that assisted in collecting the data are encouraged to do this, as it will give them the possibility to see if different parts of the populations in the sampled cities/towns have different needs in terms of information on chemical safety. This can help the organizations in planning and prioritizing awareness raising efforts.

The data in all sampled cities/towns were collected using a non-probability quota sampling methodology, and should, consequently, be a fairly good approximation of the opinion of the populations in the cities/towns in question. It should, however, be kept in mind that differences in the selection of persons for the interviews (online versus face to face, for example) may have introduced various biases into the data. Most cities/towns also have a good number of samples. 300 samples per city/town were collected, with the exception of 150 samples each in Kampala and Mukono, and in Ottawa and Toronto, the total sample numbers had to be adjusted to the largest possible, reflecting the age and gender structure in those cities, based on the collected data sets at the timing when the person responsible for the data collection switched jobs. The results were only analyzed descriptively in this report, but it should be possible to use statistics to test for differences, for example in the opinions or level of knowledge among different genders, age classes, levels of education, whether the person has children or not, and between

different cities/towns. This can be done by analyses of variance (that is to say to test for differences in class means), for example using a parametric statistical test, such as ANOVA, or its non-parametric counterparts, depending on which type of test best have the underlying conditions fulfilled.

### General reflections on the company poll

In contrast to the systematic approach of selecting participants for the consumer poll, the selection of companies became more haphazard. For Sweden, a statistically representative approach was intended (see Appendix A), but due to the general unwillingness of companies to participate in the poll, and limited personnel resources at SSNC in face of this situation, the approach could not be accomplished. Most participating organizations in this poll faced similar obstacles as in Sweden. In some countries, such as Brazil (personal communication 2015, Ana Paula Bortoletto (IDEC)), there is a culture of companies not being transparent to the civil society, and this is not unlikely to be true also for many other countries.

The sample sizes in the company poll are highly variable between the participating countries, like the shares of companies mainly producing for domestic and foreign markets, respectively. Consequently, the data can only be said to give a very rough approximation of the company opinions that this study originally intended to capture.

Generally, the sample sizes are too small (except in Tunisia, where 151 companies participated, and Uganda where 147 companies participated) to allow for any clear conclusions on differences in practices and opinions between the two company classes (producers for the domestic market, and producers for foreign markets). Some general observations are discussed under the following headings, reflecting the three major sections of the company questionnaire.

### Sections 1 and 2 of the company poll

In communications with chemical producers and manufacturers of products, it is important to stress that material and product safety data sheets are an integral part of sound chemicals management and good product stewardship, and also that it is a moral responsibility of companies to mini-

mize chances that their products are used in ways that pose risks to health and the environment. Material and product safety data sheets, according to standard formats, helps formalizing this moral responsibility. Many participating companies had the practice of providing material and product safety data sheets in place, but they should all have.

Another way of formalizing the moral responsibility of sound chemicals management and good product stewardship is to provide chemical safety training to customers. All chemical producers and product manufacturers should have this practice in place. Training from suppliers is a prerequisite for companies to be able to provide their employees in turn with sufficient information on how to handle products safely.

To request chemical safety information from upstream suppliers of chemicals and components for composite products is crucial, and at the core of the already mentioned Chemicals in Products Programme. A culture of transparency within and outside supply chains should be strongly encouraged. This poll indicates that there is room for improvements in the practices of companies with respect to this.

### Section 3 of the company poll

Not all companies participating in this poll knew if they have any legal responsibilities to ensure that their products are safe to health and the environment. The lack of knowledge is concerning, is concerning, and a signal to decision makers that they need to address the issue of defining roles and responsibilities. In building good governance of chemicals, all relevant stakeholders need to understand their functions. First of all, appropriate laws need to be in place. Then there must be appropriate information to and communication with the stakeholders about their roles and responsibilities in relation to the laws. It is a shared responsibility of government authorities and the companies themselves to make sure that the companies know what the legal requirements are. In the absence of accountability mechanisms, consumers are left to assess and call for the moral responsibility of companies to ensure safe products. Furthermore, companies that do not know their legal responsibilities, risk fines and other legal liabilities, that may also ruin their brand names, should it be revealed that they do not comply with the law.

A tool that can help companies understand their legal requirements is the UN Guiding Principles on Business and Human Rights (UNGP)<sup>52</sup>. The UNGP is a global standard for preventing and addressing the risk of adverse impacts on human rights linked to business activity. This has major resonance in the area of chemicals in the supply chain as discussed in this report. The UNGP elaborates on three pillars outlining how states and businesses should implement the UNGP framework: the state duty to protect human rights; the corporate responsibility to respect human rights; and access to remedy for victims of business-related abuses. The UNGP in its essence requires companies to conduct a due diligence on their business activities to ascertain compliance with existing human rights laws, principles and norms.

Companies that are proactive and have a long-term interest in the credibility of their brand names should engage in voluntary substitution programmes, like many of the participating companies in this poll did. In some countries, like in South Africa and Tunisia, however, very few companies worked with substitution (see question 14, the results for section 3 of the company poll). Civil society organizations, particularly public health interest and consumer organizations, in these countries should raise the awareness of companies about the benefits of substitution.

As noted, with some generalization, companies from low and middle income countries believed that a stronger national and international legislation for chemicals would be beneficial for their competitiveness (see questions 16-19, the results for section 3 of the company poll). One may speculate that the rather positive view is because laws in some of these countries currently are weak, or not efficiently enforced or complied with, which creates uncertainty in the market and space for unscrupulous companies to take market shares by selling cheap products, since they save costs from sound chemicals management and good product stewardship that they do not see as necessary. Companies trying to be responsible may, thus, find themselves at disadvantage from the point of competitiveness. Stronger laws (and enforcement and compliance check mechanisms) creates an even playing field and remove uncertainties from the market. Another

aspect of this is the EU chemicals regulation REACH<sup>53</sup>, which has far-reaching implications beyond the EU. It is currently, with some generalization, the strongest and most comprehensive legal regime on chemicals in any country or region, and, as mentioned in the introduction of the report, is used as a model for ongoing legal reforms on chemicals in several countries. There are also other EU chemicals regulations and directives with international implications, such as the Restriction of Hazardous Substances Directive for electronic and electrical appliances (RoHS)<sup>54</sup>. Companies with major customers in the EU may find that stronger national chemicals legislation helps them accessing the EU market, with its many requirements. Conversely, companies in the EU – in this study represented by Sweden – may not find that stronger chemicals legislation would improve their competitiveness “nationally” (that is to say at the level of the EU), because the chemicals legislation in the EU already is strong, in an international perspective. But the competitiveness internationally could improve, if trust in the safety of their products is boosted even further, providing that possible increased costs from stronger legislation do not outweigh possible increases in the market shares in international markets. The results from Sweden could be interpreted to give some support to this speculation (see questions 16-19, the results for section 3 of the company poll). It is reasonable to speculate that stronger international chemicals legislation would level the playing field for all actors, thus being beneficial for the competitiveness. In high income countries, like Canada and Sweden, the participants were more uncertain about this than in low and middle income countries, yet still a good number said a stronger international chemicals legislation would be positive for their competitiveness.

The final question in the company poll is about how stronger chemicals legislation would affect the rate of inventing new products. In most countries, the option “probably” got a good share of the replies, and in some the option “definitely” also got so (see question 20, the results for section 3 of the company poll). Regulative changes can be a driver for substitutions and other product changes (for example removal of certain materials and their constituent chemicals).

There is good evidence for this from voluntary certification schemes. SSNC operates its own ecolabel, the Good Environmental Choice Label (Bra Miljöval in Swedish), for chemical and cosmetic products<sup>55</sup>. In an earlier revision of the labelling criteria, phosphorus was banned as a chelator in detergents, as it may cause eutrophication in aquatic ecosystems. At first, companies claimed that it was impossible to create well-functioning products without phosphorus, but then one did and labelled the product. The criteria (that is to say corresponding to regulation) was the driver for innovation, and soon the whole market changed and most companies switched to phosphorous free products to improve their environmental profile, and to be able to ecolabel their products. This particular case, furthermore, spurred legislative changes, first in Sweden, then in the whole EU. Phosphorus is now banned as a chelator in detergents for ordinary consumers. Center for International Environmental Law also showed in a report that the EU REACH was a positive driver for innovation in the EU, and that stronger legislation assisted safer chemicals to be introduced on the market<sup>56</sup>.

### Conclusions and recommendations

The consumer poll clearly showed that consumers in 14 towns/cities in 10 countries around the world are worried about health and environmental hazards of chemicals in products. This is a clear indication of the chemical information deficit on the one hand, and that companies are not transparent enough about what chemicals they put into their products, on the other hand. The poll also showed, with some exceptions, a low trust in claims by companies that their products are safe for health and environment. Because of historic failures of companies to evaluate the effects of chemicals on public health and the environment before manufacture and widespread use, there are huge gaps in our knowledge. When the EU Chemicals Bureau in 1999, before REACH was in place, did a survey of production volume chemicals on the European market, they found that only about 14% had basic risk assessment data, 65% had some data, but of too poor quality to allow for basic risk assessment, and 21% had no data at all<sup>57</sup>. The situation was comparable in other high income countries, such as Canada and

the United States, where national surveys were also done. Now the EU has REACH in place, to address this issue, although it will take time to fully implement it. But in many countries of the world, shortages are even more profound than in the EU and governance of chemicals must improve.

The company poll showed that the participating companies, to various, degrees have elements of sound chemicals management and good product stewardship in place. Many of them have procedures for information sharing and risk communication in place, such as material and product safety data sheets, and education for customers and employees. But this is something that all companies should provide. Safety data sheets are just a foundation step in being transparent. Even more detailed information may be necessary to provide to actors within and outside supply chains to ensure a safe handling of a complex product and its constituent parts throughout the life cycle of the product, including recycling, reuse of materials, and the terminal handling of waste. Not all companies in the study seem to know if they have any legal responsibilities to ensure that their products are safe to health and the environment, with respect to chemicals. This is concerning. Many of the participating companies, particularly in low and middle income countries, seem to be in favor of stronger legislation, nationally and internationally, and most companies believe that stronger legislation would possibly improve their rate of innovation.

Based on the observations made in this study, a number of recommendations can be given to the constituencies below.

### Decision makers

- Make sure to, first and foremost, address the 11 core elements in the SAICM Overall Guidance and Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals<sup>9</sup> as quickly as possible. This includes, with some additional recommendations:
  - To develop and install legal frameworks addressing the life cycle of chemicals and waste in place.

- To put relevant enforcement and compliance mechanisms.
- To make sure that there are strong institutional frameworks and coordination mechanisms among relevant stakeholders. Facilitate for companies to fulfil their roles in the 11 core elements. Make sure that companies understand what legal requirements they have when it comes to safety of products, with respect to chemicals.
- To include sound management of chemicals and waste in national health, labor, social, environment and economic budgeting processes and key mechanisms. Make sure that your country is devoted to continually improve and expand the existing international agreements and mechanisms, so that all chemicals with unacceptable health and environmental consequences eventually will be regulated internationally. Only could level the playing field for all actors in a globalized economy and facilitate trade. Devote your country to secure that there will be a strong successor to SAICM – a voluntary broad-scope mechanisms – in place when the mandate of SAICM ends in 2020. Work for sustainable solutions to secure the long-term financing of this work.

### Companies

- First and foremost, make sure that you fulfil your responsibilities in relation to the SAICM Overall Guidance and Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals<sup>9</sup> as quickly as possible. This includes, with some additional recommendations:
  - To put in place collection and systems for the transparent sharing of relevant data and information among all relevant stakeholders using a life cycle approach, such as the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals. Companies are strongly encouraged to participate in the Chemicals in Products Programme, as this will operationalize transparent data and information sharing of among the stakeholders, throughout the life cycle of products.
  - To participate and define industry responsibility across the life cycle, including cost recovery policies and systems as well as the incorporation of sound chemicals management into corporate policies and practices.
  - To develop environmentally sound and safer alternatives. Proper chemicals risk assessments are a responsibility of companies, and must be a requirement before a chemical is allowed to be placed on markets.
  - To participate and define industry responsibility across the life cycle, including cost recovery policies and systems as well as the incorporation of sound chemicals and waste management into corporate policies and practices.
  - Proper chemicals risk assessments are a responsibility of companies, and must be a requirement before a chemical is allowed to be placed on markets.
  - To development and promote of environmentally sound and safer alternatives. The principles of Green Chemistry can be followed<sup>58</sup>.
  - To make sure that the corporate management and all key persons in the production units know what national and international legislation govern the chemical safety of the products produced or manufactured by your company.



- To devote your company to secure that there will be a strong successor to SAICM in place when the mandate of SAICM expires in 2020.
- To observe the UN Guiding Principles on Business and Human Rights, in order to strengthen due diligence in corporate supply chains for the protection of various rights implicated in the product life-cycle.

#### Civil society organizations

- First and foremost, to assist in all possible ways the government, authorities, and companies to address the 11 core elements in the SAICM Overall Guidance and Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals<sup>9</sup> as quickly as possible. This could include:
  - To do awareness raising to governments on tools to assist good chemicals governance, such as a number of UN manuals, for example the guide for Guidance on Development of Legislation, Administrative Infrastructures and Recovery of Administrative Costs (LIRA)<sup>2</sup>, the United Nations Development Programme (UNDP) Guide For Integrating the Sound Management of Chemicals into Development Planning<sup>59</sup>, the United Nations Institute for Training and Research (UNITAR) Guidance for Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management (2nd edition)<sup>60</sup>, and the Food and Agriculture Organization (FAO) International Code of Conduct on Pesticide Management<sup>61</sup>.
  - To do awareness raising to governments and companies on the cost of inaction, using the UNEP Cost of Inaction Report on the Sound Management of Chemicals<sup>62</sup>.
  - To do awareness raising on Globally Harmonized System for Classification and Labelling of Chemicals (GHS) to governments and companies. The GHS paves the way for global harmonization in how information on chemical hazards is communicated and is of great importance for facilitating access to and sharing of information.
  - To do awareness raising to companies on the Chemicals in Products Programme, and encourage them to participate.
  - To do awareness raising to the public on product categories for which this study indicate a low risk awareness, for example for textiles and leather goods that have large health and environmental impacts in the production, and that also may contain harmful chemicals when they reach the consumers. The participating organizations are encouraged to further analyze the data collected, in order to identify potentially differential awareness raising needs among different gender, age and educational level groups.
  - In addition to the mentioned awareness raising activities, provide technical expertise about chemicals to governments and authorities when appropriate.
  - Create a forum in which the government and companies can engage civil society in transparent dialogue on issues raised in the poll, especially in cases where there is lack of government institution or capacity to host or initiate such dialogue.

- Assist consumers in organizing themselves into consumer interest organizations, and bringing forward demands to decision makers and companies for safe products to health and the environment.
- Act as watch dogs, to monitor that decision makers and companies fulfil their duties and undertakings, as well as monitor chemicals in consumer products and the environment, the latter suggestion in line with the core element on monitoring chemicals according to the SAICM Overall Guidance Orientation Document for Achieving the 2020 Goal of Sound Management of Chemicals.
- Follow and influence the process of negotiating a successor to SAICM, in the interest of civil society.

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## Appendix

# Appendix A

The poll had two components: a consumer poll; and a company poll. In dialogue with a selection of partner organizations, it was concluded that the target numbers of completed questionnaires per country would be 300 for the consumers and 45 (30% out of 150 contacted companies) for the companies. The consumer poll was delimited to one or a few cities; the company poll could have national coverage.

The selection of cities/towns was based on logistical considerations, basically where the partner organizations are based or have easy access. Sometimes it is the capital of the country; sometimes not. Most organizations did the poll in only one city/town, while a few did it in two or more cities/towns. For details see Table 1. MAMA-86 set an ambitious target to sample 300 consumers in each of three cities/

## Equations used for calculating the sample compositions in the cities/towns:

1. Population share in a specific age class =  $\frac{\text{population nb. in the age class}}{\text{total population}}$
2. Share of gender class in an age class =  $\frac{\text{number of persons belonging to a gender class in an age class}}{\text{number of persons in an age class}}$
3. Number of persons of an age class in a sample of 300 =  $(\text{population share in a specific age class} * 300)$
4. Number of persons of a specific gender class and age in a sample of 300 =  $(\text{number of persons of an age class in a sample of 300} * \text{share of gender class in an age class})$

Table 1: Country, city and the year of the census.

Country	City/town	Year of census	Source	Target nb. of samples
Brazil	São Paulo	2010	IBGE (Brazilian Institute of Statistics and Geography)	300
Canada	Ottawa	2011	Statistics Canada	150
Canada	Toronto	2011	Statistics Canada	150
India	New Delhi	2011	Ministry of Home Affairs, Government of India	300
Philippines	Davao City	2010	Philippine Statistics Authority	300
South Africa	Durban (eThekweni)	2014	Statistics South Africa	300
Sweden	Stockholm	2014	SCB (Swedish national statistical office)	300
Thailand	Bangkok	2010	National Statistics Office	300
Tunisia	Bizerte	2013	National Institute of Statistics	300
Uganda	Kampala	2012	Uganda Bureau of Statistics	150
Uganda	Mukono	2012	Uganda Bureau of Statistics	150
Ukraine	Kyiv	2001	State Statistics Service of Ukraine, Main Department of Statistics in Kyiv, Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine	300
Ukraine	Kirovohrad	2001	Main Department of Statistics in Kirovograd region, Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine	300
Ukraine	Yaremche	2001	Main Department of Statistics in Ivano-Frankivsk region and Government Department of Statistics in Yaremche, Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine	300

towns. Other organizations sampling in two cities had a target of 150 consumers in each.

For the consumer poll, a non-probability quota sampling approach was deemed acceptable, given the limitations at hand. It implies that the composition of the samples, in this specific case of age and gender ratios, should mirror that of the distribution of these parameters in the sampled population. Consequently, the age and gender ratios in a sample of 300 (or 150) should mirror that of the entire population in the city of sampling. The calculations of the sample compositions were based on the latest available census data for the cities/towns in question. See Table 1 for the sources of the census data.

The parameter “age” was grouped in to the following age classes: 15-32 years; 33-50 years; and 51-68. Given that the poll is carried out in a wide range of countries, the age classes were chosen to roughly cover the period in life when people are potentially professionally active.

The actual collection of samples was supposed to be as random as possible. In Sweden and Brazil it was done online, using various channels of social media to spread the information about the poll; in the other countries it was done based on face to face interviews, according to the choices of the participating organizations.

In the company poll, a country-specific representative mixture of companies with the major part of the annual

turnover from domestic sales and exports, respectively, was strived for. Another selection criterion was that the companies should have a turnover large enough to be of importance to the national economy. But the selection of companies for the poll was much less systematic and standardized than that for the consumers.

In Sweden, the selection of companies was based on data from the national company register (Swed: Företagsregistret), operated and maintained by the Swedish national statistical office SCB. The following three categories of companies were included in the selection: extractive industries; manufacturers; and vehicle industries. The companies were further classified into companies with more than 50% of the annual turnover from exports, and with up to 50% of the annual turnover from the domestic market, respectively. The top 10% of companies, with respect to annual turnover, were picked from the mentioned classes. See Table 4, 5, and 6 for raw data and calculations.

With the help of a statistician at SCB, the calculated numbers of companies in the two turnover categories and categories of industry types (Table 6) were randomly selected from the top 10% companies in terms of annual turnover in each turnover category, from the national company register.

The participating organizations in other countries than Sweden used various approaches to select companies from national company registry lists, or corresponding lists, but, whenever possible, were striving for an approximate balance between companies having up to 50% of their annual turnover from the domestic market, and those having more than 50% of their annual turnover from exports. Companies of importance for the national economy were preferentially chosen, analogous with the selection in Sweden of the top 10% companies in terms of annual turnover. When turnover data was not readily available, the organizations randomly picked companies from company registry lists.

**Table 4: Classes and corresponding numbers of companies in the Swedish national enterprise register (raw data).**

Share of turnover from exports	Extractive industries	Manufacturers	Vehicle industries
>50%	47	2298	275
0-50%	50	8546	1808
Sum	97	10844	2083
Grand total: 13024 companies			

**Table 5: Share of companies in a specific class and corresponding numbers in a sample of 150.**

Extractive industries in a sample of 150	Manufacturers in a sample of 150	Vehicle industries in a sample of 150
$(150 * (97/13024)) = 1,17\Omega$	$(150 * (10844/13024)) = 124,9$	$(150 * (2083/13024)) = 23,9$

$\Omega$  We need at least one company of each turnover category. Thus the number of extractive industries was adjusted to 2, the number of manufacturers to 124, and the number of vehicle industries to 24.

**Table 6: Share of companies in the two turnover categories.**

Share of turnover from exports	Extractive industries	Manufacturers	Vehicle industries
>50%	$(47/97) * 2 = 1$	$(2298/10844) * 124 = 26$	$(275/2083) * 24 = 3$
0-50%	$(50/97) * 2 = 1$	$(8546/10844) * 124 = 98$	$(1808/2083) * 24 = 21$
Sum	97	10844	2083
Grand total: 13024 companies			

# Appendix B

## Section 1: Introduction and basic information of the interviewed person

**Many thanks for taking your time to participate in this poll of public perceptions on chemical safety!**

**The poll is organized by the Swedish Society for Nature Conservation, in collaboration with local partners abroad, and will be carried out in 10 countries all over the world in 2015. It will give an idea of how the public in different parts of the world perceive their safety as consumers and employees, with respect to chemicals in consumer products and occupational settings.**

**The questionnaire contains four sections:**

- 1) Introduction and basic information about the interviewed person.**
- 2) Questions and opinions on issues of exposure to consumer products.**
- 3) Questions and opinions on workplace/occupational safety.**
- 4) Questions and opinions on sources of information on chemical safety issues and responsibilities for chemical safety.**

**The estimated time to complete the questionnaire is 10-15 minutes.**

\* 1. What is your gender?

- ☐ Female
- ☐ Male
- ☐ Other

\* 2. What is your age?

- ☐ 15-32
- ☐ 33-50
- ☐ 51-68

\* 3. How many school years have you completed?

\* 4. What is your country of residence?



\* 5. In which town/city did you do participate in this poll?

\* 6. Do you have children?

☐ Yes

☐ No

## Section 2: Issues of exposure to hazardous chemicals from "consumer products"

**In the questionnaire, the word "consumer products", as a collective term, is synonymous with all kinds of products that you potentially consume in your everyday life, such as textiles and leather, kitchen utensils/storage equipment/other equipment in the home or at work, electric and electronic appliances, toys, household cleaning products/personal hygiene products/cosmetics, building materials, paints, fuel, as well as food, beverages, and water, and so on. Therefore, please think with a wide scope when you reply to the questions and statements in this questionnaire.**

\* 7. Rate what you believe is the potential magnitude of exposure to hazardous chemicals to health from the following "consumer products". Think of an ordinary consumer in your country.

	A great deal	A fair amount	Not very much	None at all	I do not know
Food, beverages, and water (bottled water and tap water)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal hygiene products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cosmetics/beauty products/perfumes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Household cleaning products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic and electrical appliances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children's toys	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Textiles/clothing/leather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Footwear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Furniture/interior design items	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kitchen utensils/storage materials, such as plastic bowls and bottles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fuel products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 8. Are you worried that "consumer products" contain chemicals hazardous to health?

- ☐ Yes
- ☐ No

\* 9. Rate what you believe is the potential magnitude of exposure for the environment to hazardous chemicals from the following "consumer products". Think of the complete life cycle of the "consumer product", from industrial production/agricultural production, to consumption of the "consumer products", and final disposal of the waste.

	A great deal	A fair amount	Not very much	None at all	I do not know
Food, beverages, and water (bottled water and tap water)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal hygiene products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cosmetics/beauty products/perfumes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Household cleaning products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic and electrical appliances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children's toys	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Textiles/clothing/leather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Footwear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Furniture/interior design items	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kitchen utensils/storage materials, such as plastic bowls and bottles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fuel products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 10. Are you worried that "consumer products" contain chemicals hazardous to the environment?

- ☐ Yes
- ☐ No

### Section 3: Workplace/occupational safety

**This section deals with chemical safety issues at the workplace in a broad sense. Even if you work in an office, a store, a hospital or in another setting where handling of chemicals may not be an obvious part of your everyday working environment, you can potentially be exposed to harmful chemicals, from products improperly handled or disposed.**

**If you are currently unemployed, or retired, please recall how the situation was in your last workplace.**

11. How do you classify your main occupation?

- ☐ Agricultural production and forestry
- ☐ Mining and refining of raw materials
- ☐ Construction work, carpenters and artisans of various kinds
- ☐ Manufacturing of chemical products, such as basic industrial chemicals, medicines, household chemicals, personal hygiene products, cosmetics, and pigments/paints
- ☐ Manufacturing of other "consumer products" not mentioned as chemical products in the previous option
- ☐ Office jobs, such as managerial, and clerical in administration, economy, design and architecture, law, media, etc.
- ☐ Service providers in health care and rehabilitation
- ☐ Service providers, such as social workers and psychologists
- ☐ Service providers, such as in education, guiding, librarians, other cultural services and entertainers
- ☐ Service providers, such as retail workers and related customer services
- ☐ Service providers, such as hair dressers and various beauty services
- ☐ Service providers in food and lodging services
- ☐ Service providers, such as taxi and bus drivers, and in transport and distribution of goods and waste
- ☐ Service providers, such as mechanics, various menders, plumbers and chimney sweepers
- ☐ Service providers in the cleaning business
- ☐ Service providers, such waste recycling and disposal
- ☐ Student
- ☐ Unemployed
- ☐ Retired

job not covered by the categories listed above. If so, please tell what job you have.

\* 12. Rate the following in terms of the level of concern that you have for your workplace/occupational environment.

	Very concerned	Quite concerned	Not very concerned	Not concerned at all	I do not know/Not applicable to my job
Exposure to pesticides and agricultural chemicals used in your job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exposure to industrial chemicals at your work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air pollution caused by chemicals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical exposures from medical products used in your job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical exposures from beauty products used in your job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical exposures from cleaning products used in the facilities where you work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food and drinking water safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Construction materials, furniture, interior design items, wall paints, machinery and other equipment, etc., in the facilities where you work, as potential sources of hazardous chemicals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incompetence of co-workers, causing potentially dangerous situations when it comes to handling of chemicals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 13. How safe do you feel in your workplace/occupational environment with respect to exposure to hazardous chemicals?

- ☐ Very safe  
☐ Fairly safe  
☐ A bit unsafe  
☐ Very unsafe

\* 14. Do you receive information from your employer about chemical safety issues in your workplace/occupational environment?

- ☐ Adequate  
☐ Lacking  
☐ None at all  
☐ Not applicable to my job

\* 15. Are the following practises present in your workplace/occupational environment?

	Yes	No	I do not know	Not applicable to my job
There is health and safety training for employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A manual for chemical safety is provided to employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal protection equipment is available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are readable signs and warnings posted in dangerous areas of the workplace/occupational environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a person/department responsible for controlling the chemical safety risks in the workplace/occupational environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a person/department responsible for after care for employees exposed to harmful chemicals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Section 4: Sources of information and responsibilities for chemical safety

\* 16. Rank the sources that you use to obtain what you believe is reliable information about chemicals in "consumer products", and about how to reduce risks for harmful exposure. 1 is the highest rank; 8 the lowest.

<input type="text"/>	Government competent authorities
<input type="text"/>	Academic researchers/scientific organizations
<input type="text"/>	Non-government organizations, such as consumer watch/associations
<input type="text"/>	Material safety data sheets and product manuals provided by manufacturers and producers
<input type="text"/>	Magazines/newspapers
<input type="text"/>	Television/radio
<input type="text"/>	Family members
<input type="text"/>	Co-workers and other colleagues

\* 17. Rank the trust that you have in the source of certificates stating that a product is free from hazardous chemicals or safe to health and the environment. The certificate can, e.g., be an ecolabel or lab test results from spot-checks. 1 is the highest rank; 3 the lowest.

<input type="text"/>	Government competent authorities
<input type="text"/>	Companies
<input type="text"/>	Independent bodies, eg. academic institutions or non-governmental organizations

\* 18. Who should be responsible for ensuring consumer's safety to chemicals in "consumer products"? Tick as many boxes as you feel is necessary.

- ☐ Manufacturers of the chemicals used in the production of "consumer products"
- ☐ Producers of "consumer products"
- ☐ National (in the case of the EU, regional) legislators and national authorities checking the safety of "consumer products"
- ☐ International legislators and the global community, e.g. via the Environmental and Health units of the United Nations

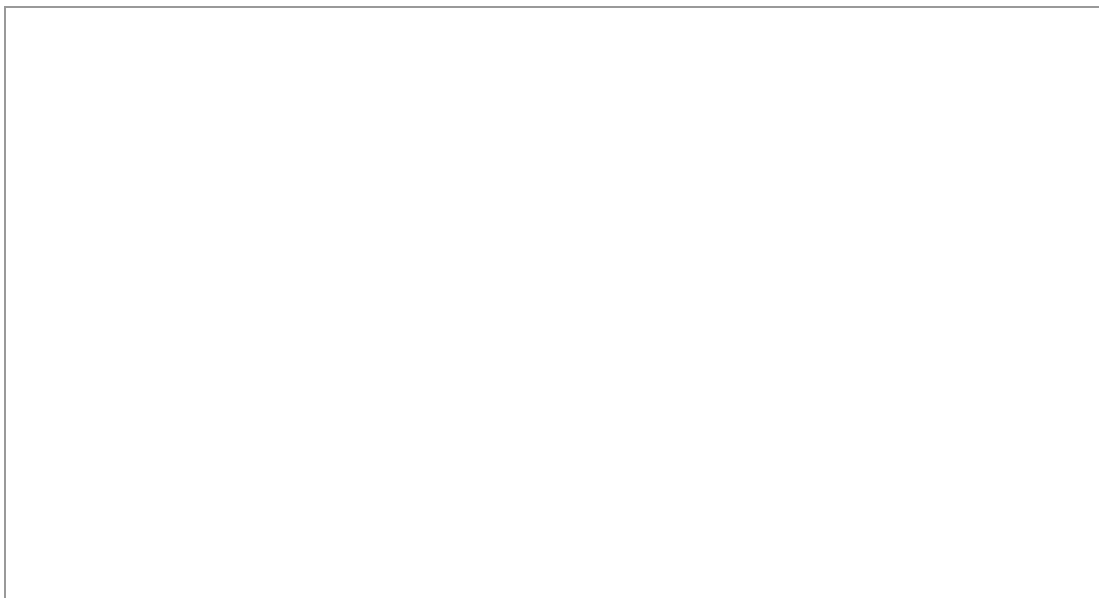
Other (please specify)



**As a participant in the poll, you are completely anonymous, but your opinion is an important contribution to the collective opinion in your country. The results will be shared with various decision makers and other relevant stakeholders, to help them understand the necessity of managing chemicals in a sound way, and to set the right priorities.**

**We sincerely thank you for having completed this questionnaire!**

19. Additional optional comments that can be relevant to this poll?



# Appendix C

## Section 1. Introduction and basic data about the company

**Many thanks for taking your time to participate in this poll of corporate opinions on responsibilities in chemical safety work, and on national and international chemicals legislation!**

The poll is organized by the Swedish Society for Nature Conservation, in collaboration with local partners, and will be carried out in 10 countries all over the world in 2015. It will give an idea of how enterprises in different parts of the world perceive their respective roles in chemical safety work, and of how they perceive that national and international chemicals legislation affect their competitiveness.

The questionnaire contains two sections:

- 1) Introduction and basic information about the enterprise.
- 2) Questions on chemical safety work and regulation.

In this poll, we distinguish between "producers" and "manufacturers". "Producers" are suppliers of chemical elements, substances and mixtures that can be used by "manufacturers" as process chemicals, or ingredients, for more complex industry/consumer products and formulations.

Depending on what business you represent (as chosen in question 3 on this page), you will be automatically directed the questions relevant for you.

The estimated time to fill in the questionnaire is 10-15 minutes.

\* 1. 1. In which country are you registered as a company?

\* 2. What share of the annual turnover of your production is from exports?

- ☐ 0-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%

\* 3. How many employees do you have?

- ☐ 1-10
- ☐ 11-50
- ☐ 51-100
- ☐ 101-500
- ☐ 501-1000
- ☐ More than 1000

\* 4. What kind of business do you represent?

- ☐ Producer of chemicals (chemical elements, substances, and mixtures) that can be used as process chemicals for the production of more complex industry/consumer products, or ingredients for formulations of more complex chemical products
- ☐ Manufacturer of more complex industry/consumer products, e.g. components of other products, electronics, appliances, vehicles, textiles, paper, furniture and plastic items, or formulations of chemical ingredients, e.g. personal hygiene products, cosmetics, household chemicals, spackling pastes, paints, varnishes and pharmaceuticals

## Section 2 A: Chemical safety work

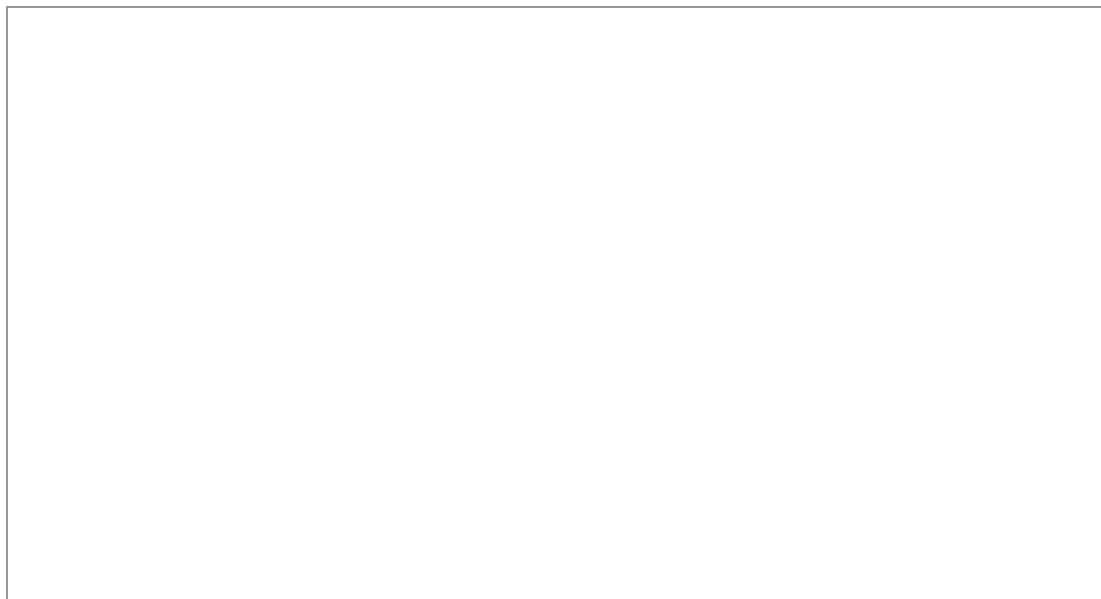
**This section contains questions specifically targeting producers of chemicals. In a narrow sense, chemicals for this purpose are interpreted as chemical elements, substances, or mixtures that can be used as processing chemicals for manufacturing of more complex industry/consumer products, or as ingredients in formulations of more complex chemical products.**

5. If you are a producer of chemicals, do you provide safety data sheets (e.g. formatted according to the Globally Harmonized System for classification and labelling of chemicals (GHS)) to your customers?

☐ Yes

☐ No

Optional comments: If "no", why not?



\* 6. If you are a supplier of chemicals, do you provide information and/or training sessions to your customers on how to handle the chemicals safely?

☐ Yes

☐ No

Other (please specify)

## Section 2 B: Chemical safety work

**This section contains questions specifically targeting users of chemicals, such as manufacturers of more complex industry/consumer products, including formulations containing several chemical ingredients, e.g. personal hygiene products, cosmetics, household chemicals, spackling pastes, paints and varnishes.**

\* 7. If you are a user of chemicals for the formulation of more complex chemical products, e.g. paints, varnishes and spackel pastes, do you provide safety data sheets (e.g. formatted according to the Globally Harmonized System for classification and labelling of chemicals (GHS)) to your customers?

- ☐ Yes
- ☐ No
- ☐ Not applicable, as my product falls under legislation that does not require the supply of safety data sheets, e.g. legislation for cosmetic products.

Other (please specify)

\* 8. If you are a user of chemicals in the manufacturing of products, are you requesting and getting access to safety information (e.g. safety data sheets) from the suppliers of chemicals?

☐ Yes

☐ No

Other (please specify)

9. If you are a user of chemicals, do your suppliers of chemicals provide information and/or training sessions on how to handle the chemicals safely?

☐ Yes

☐ No

Other (please specify)



\* 10. If you are a user of chemicals, do you provide regular training sessions for your employees on how to handle the chemicals safely, to ensure that the information reaches those who actually handle the chemicals?

☐ Yes

☐ No

Other (please specify)

\* 11. As a manufacturer of industry/consumer products, do you provide product safety data sheets to inform your customers on how to handle the products properly throughout their life cycles, including when they becomes waste, in order to minimize chemical hazards?

☐ Yes

☐ No

Other (please specify)

\* 12. If you use components from other suppliers to manufacture your consumer/industry products, do you request material safety data sheets from your component suppliers, in order to understand how your employees should minimize chemical hazards when handling the components and waste, and in order to make material safety data sheets to the customers of your consumer/industry products?

☐ Yes

☐ No

Other (please specify)

### Section 3: Chemical safety work and legislation

**This section contains questions that address both types of businesses.**

\* 13. Are you as a producer/manufacturer responsible by law to ensure that your chemicals/products are safe to the health of the user/consumer, and the environment?

- ☐ Yes
- ☐ No
- ☐ I do not know

Other (please specify)

\* 14. Are you as a producer/manufacturer applying any voluntary model for substitution of hazardous chemicals?

☐ Yes

☐ No

Other (please specify)

\* 15. As a producer/manufacturer, do you feel morally responsible for ensuring that your chemicals/products are safe to the health of the user/consumer, and the environment?

☐ Yes

☐ No

Other (please specify)

\* 16. How would a stronger NATIONAL legislation on chemicals with reference to health and environment affect your competitiveness and business in the NATIONAL MARKET?

- ☐ Positively
- ☐ Not at all
- ☐ Negatively
- ☐ I do not know

Other (please specify)

\* 17. How would a stronger NATIONAL legislation on chemicals with reference to health and the environment affect your competitiveness and business in the INTERNATIONAL MARKETS?

- ☐ Positively
- ☐ Not at all
- ☐ Negatively
- ☐ I do not know

Other (please specify)



\* 18. How would a stronger INTERNATIONAL legislation on chemicals with reference to health and environment affect your competitiveness and business in the NATIONAL market?

- ☐ Positively
- ☐ Not at all
- ☐ Negatively
- ☐ I do not know

Other (please specify)

\* 19. How would a stronger INTERNATIONAL legislation on chemicals with reference to health and environment would affect your competitiveness and business in the INTERNATIONAL markets?

- ☐ Positively
- ☐ Not at all
- ☐ Negatively
- ☐ I do not know

Other (please specify)

\* 20. Would a stronger chemicals legislation, nationally and/or internationally, improve your rate of inventing new products, thereby potentially creating market advantages?

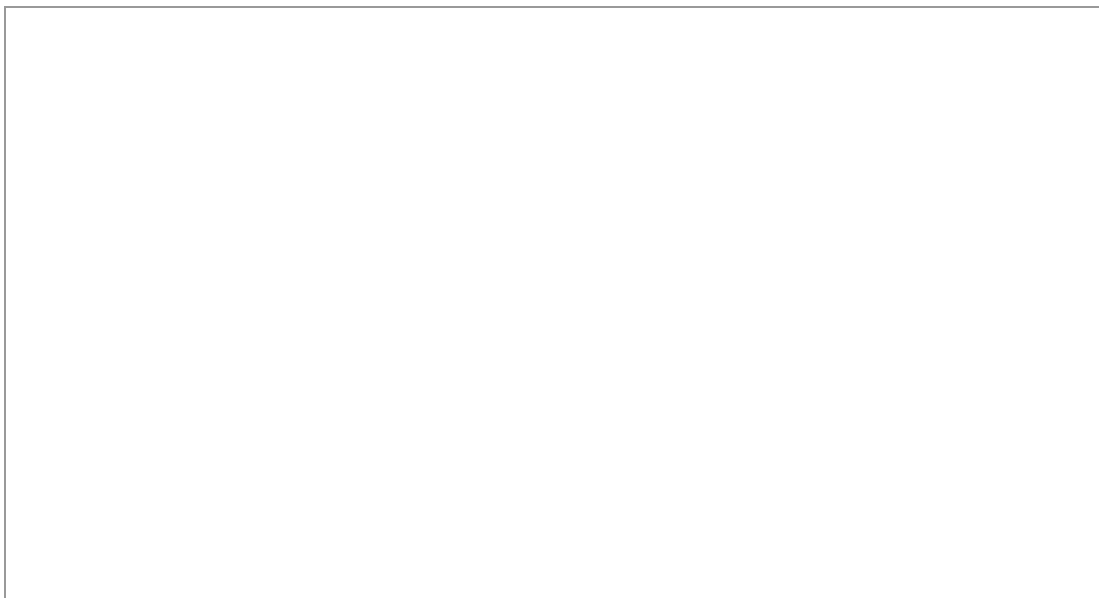
- ☐ Definately
- ☐ Probably
- ☐ Not at all
- ☐ I do not know

Other (please specify)

**As a participant enterprise, you are completely anonymous, but your opinion is an important contribution to our understanding of how the industry reasons around chemical safety work. The results will be shared with various decision makers and other relevant stakeholders, to help them understand the industry perspectives, and set the right priorities.**

**We sincerely thank you for having completed the questionnaire!**

\* 21. Additional optional comments that can be relevant to this poll?

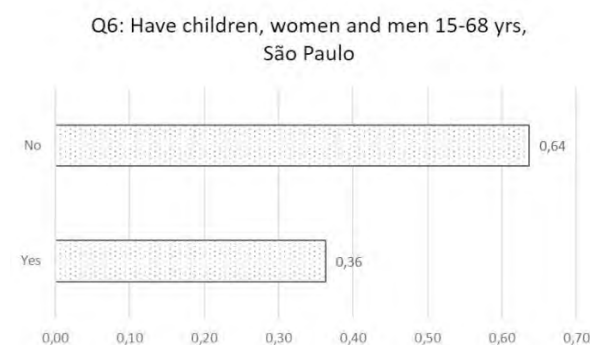


## Appendix D–X

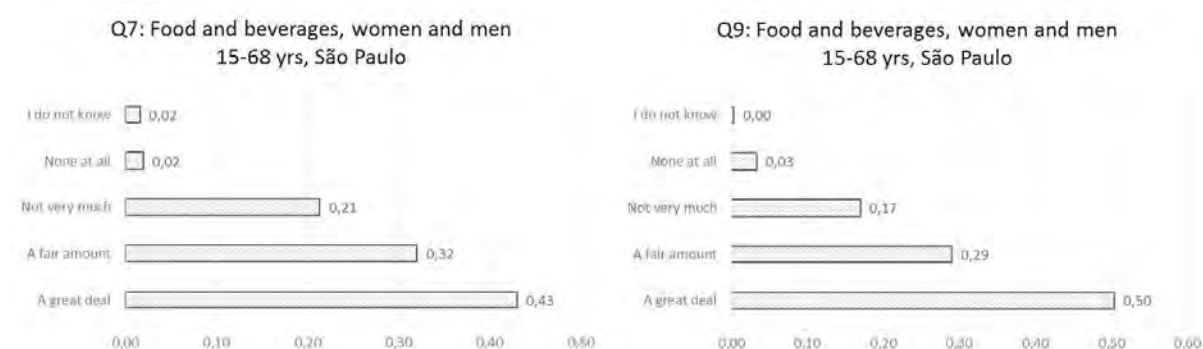
## Appendix D

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.64 for the option “no” in Figure 1 implies that 64% of the poll respondents replied “no”; 0.36 for “yes” that 36% of the poll respondents replied “yes”.

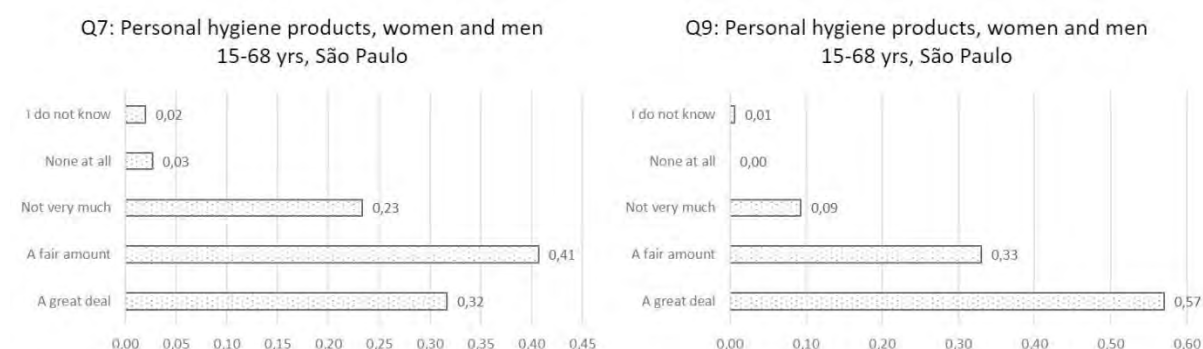
### Brazil



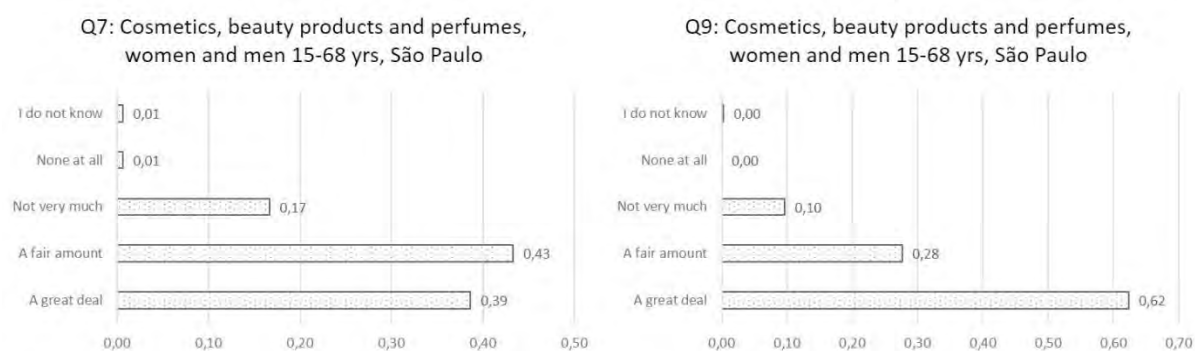
**Figure 1:** Share of poll participants with children or not (sample size: 300, São Paulo)



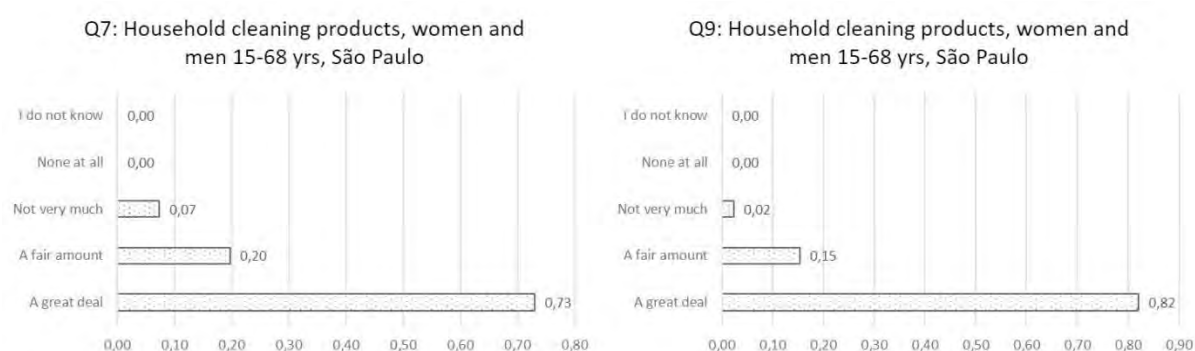
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, São Paulo).



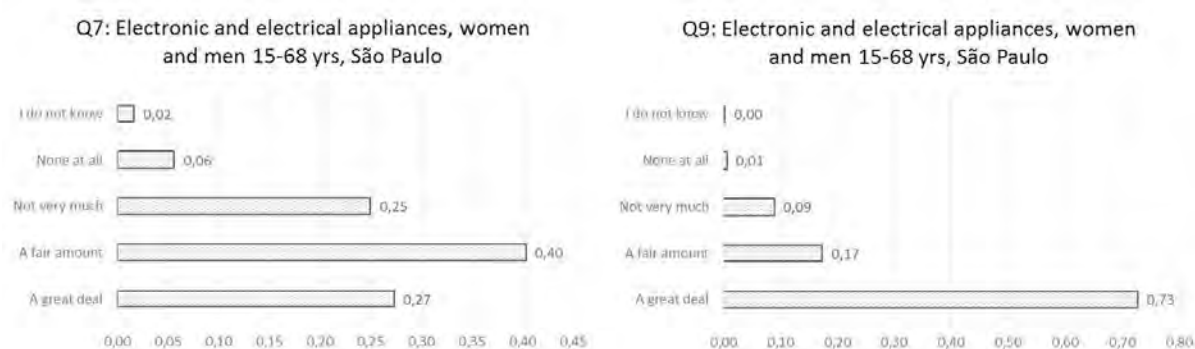
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, São Paulo).



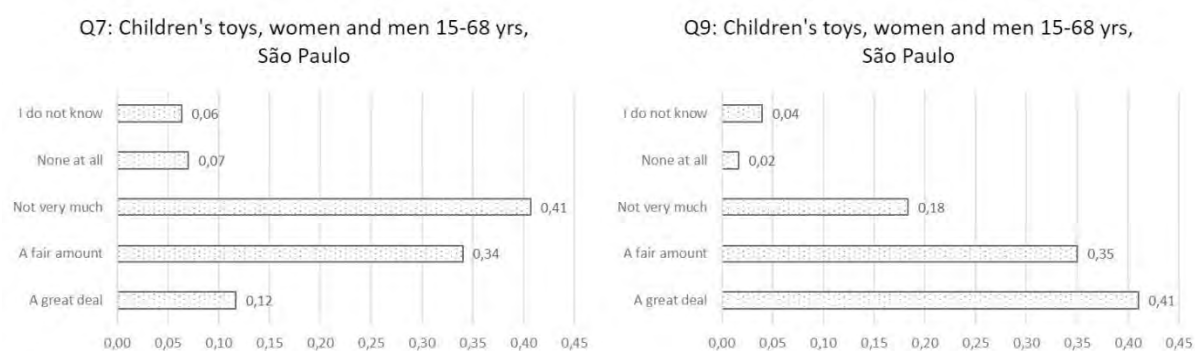
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 300, São Paulo).



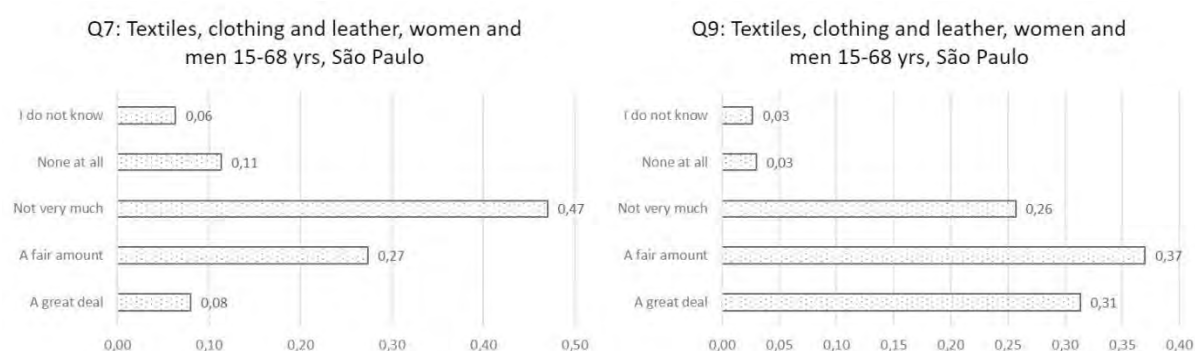
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, share of poll participants (right hand graph) (sample size: 300, São Paulo).



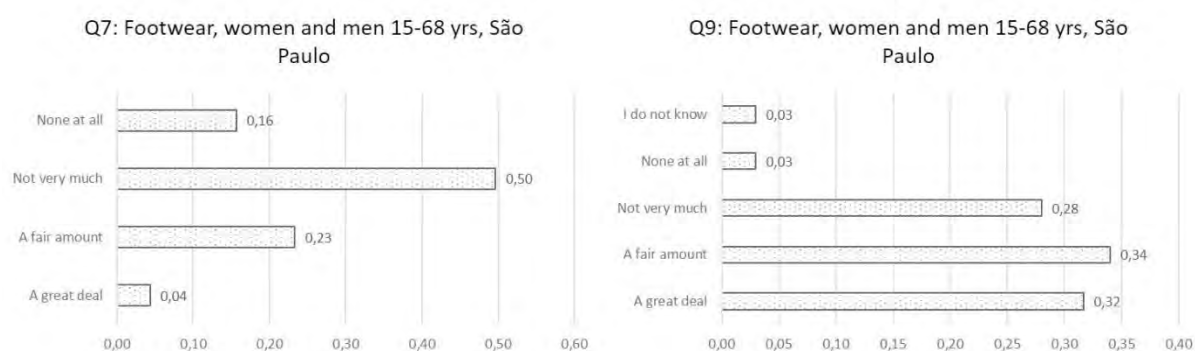
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, São Paulo).



**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, São Paulo).

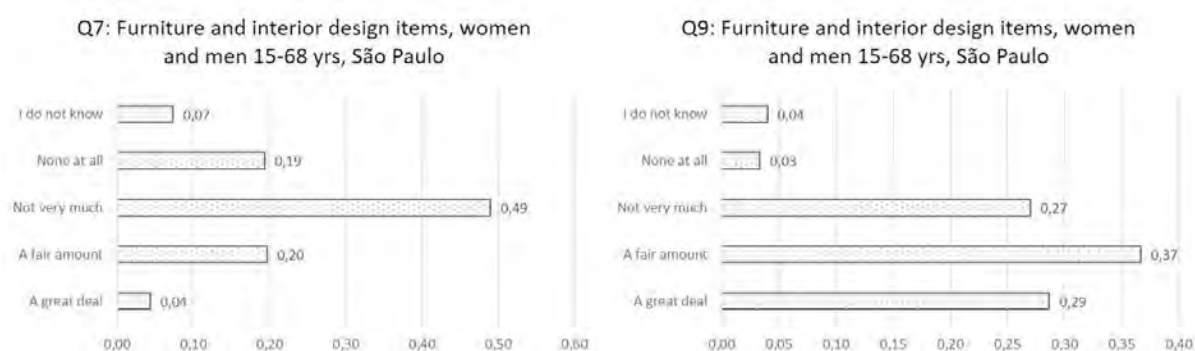


**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, São Paulo).

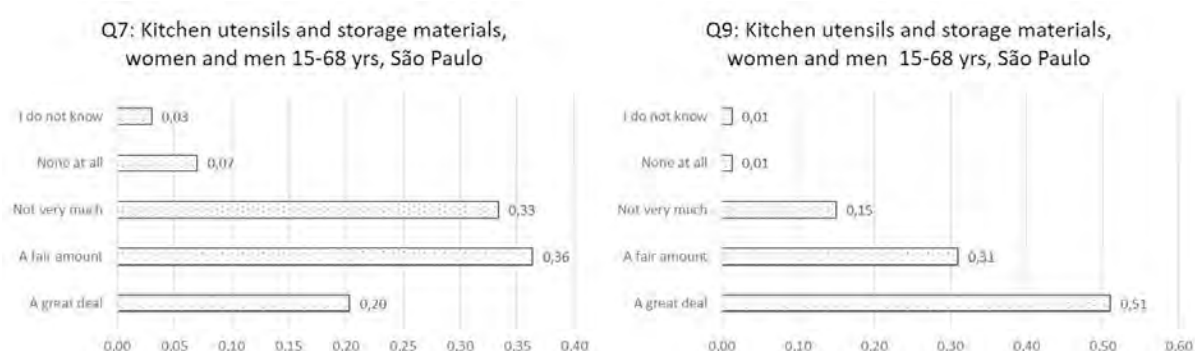


**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 300, São Paulo).

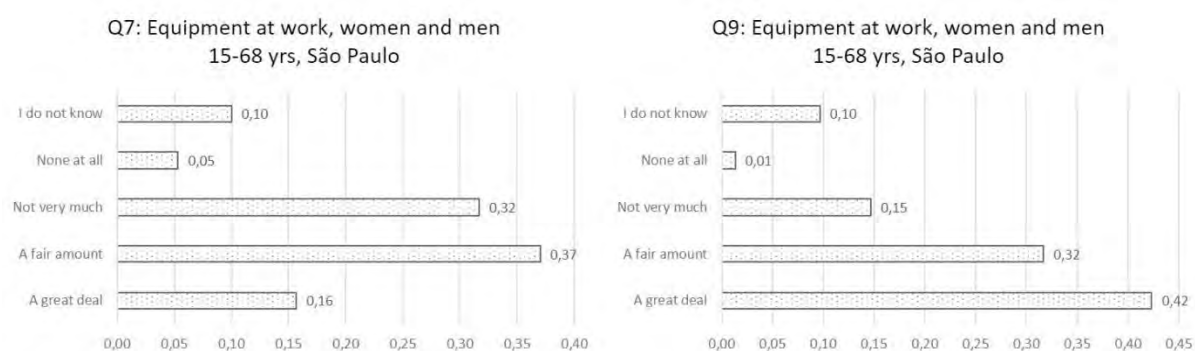




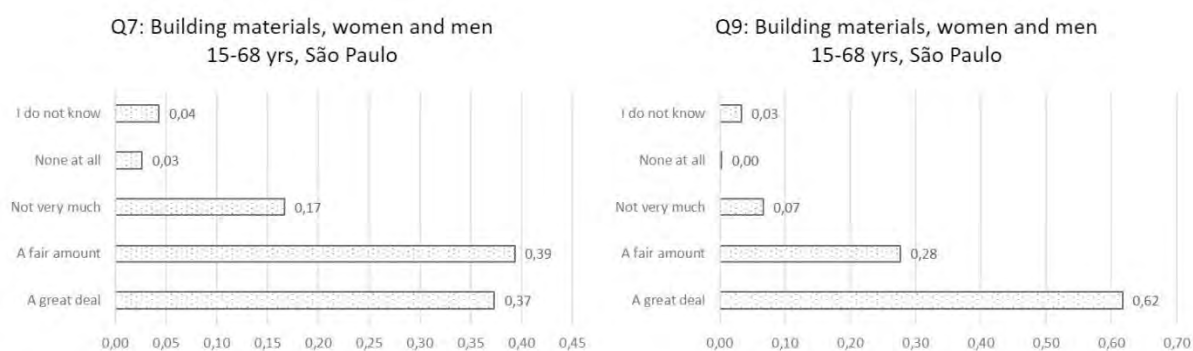
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, São Paulo).



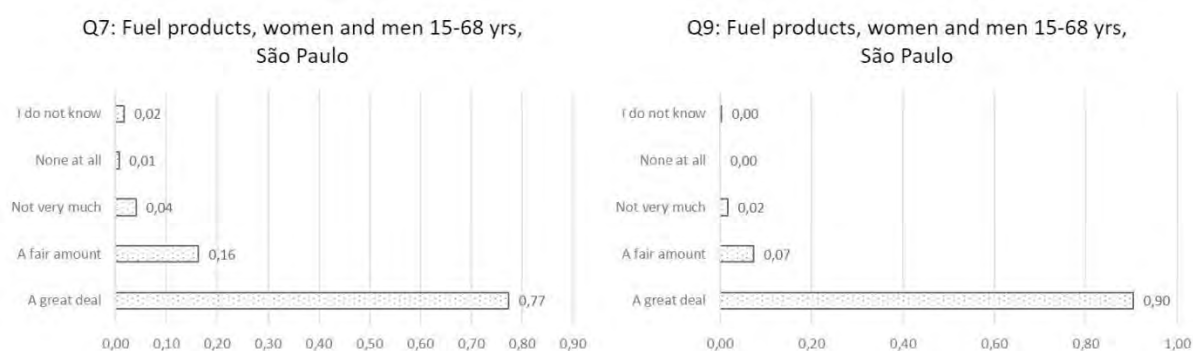
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage and contact materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage and contact materials (right hand graph), share of poll participants (sample size: 300, São Paulo).



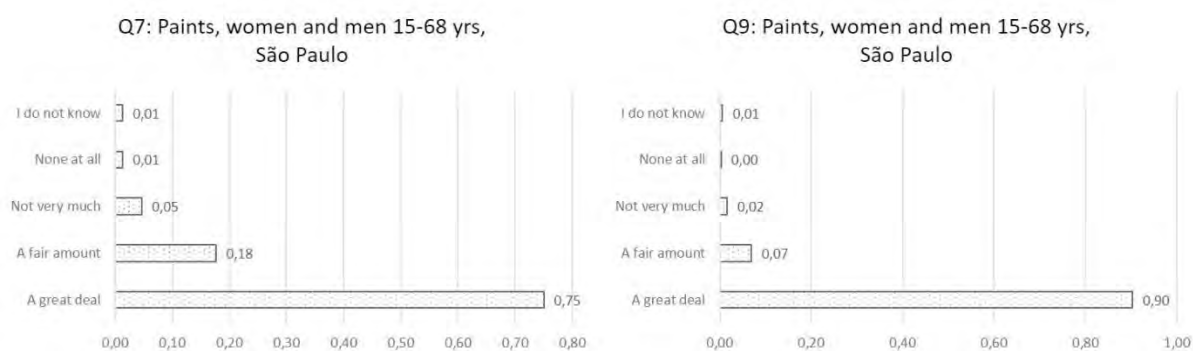
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, São Paulo).



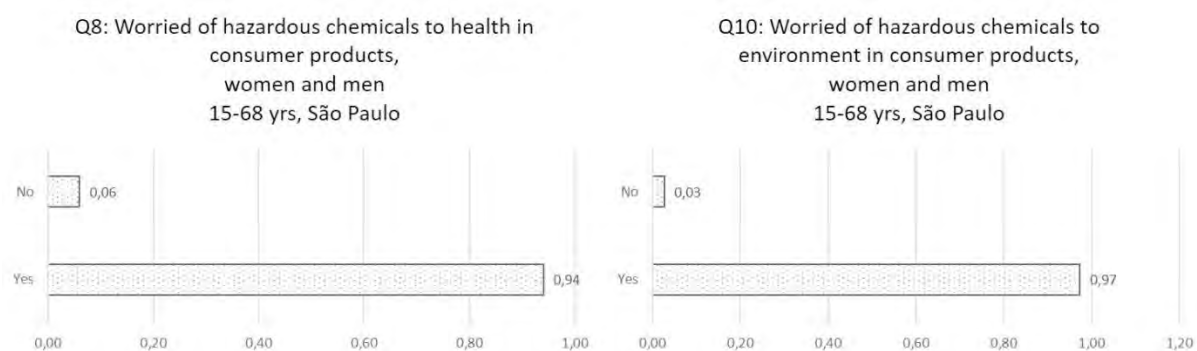
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, São Paulo).



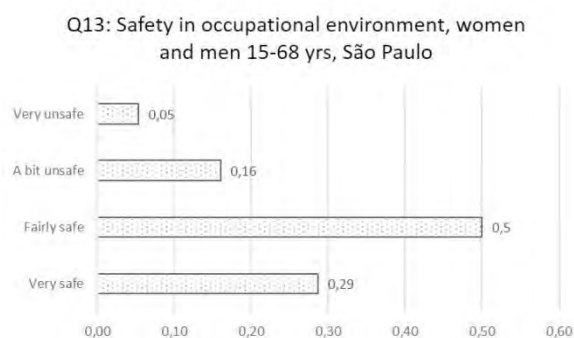
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, São Paulo).



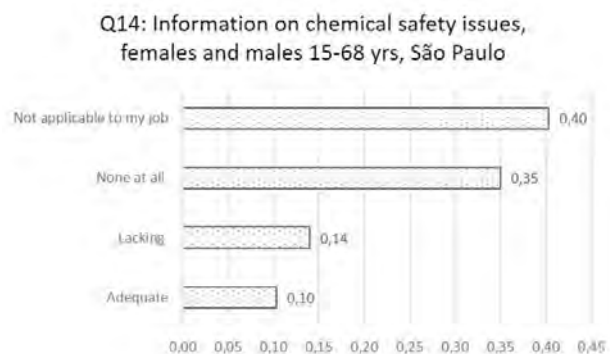
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, São Paulo).



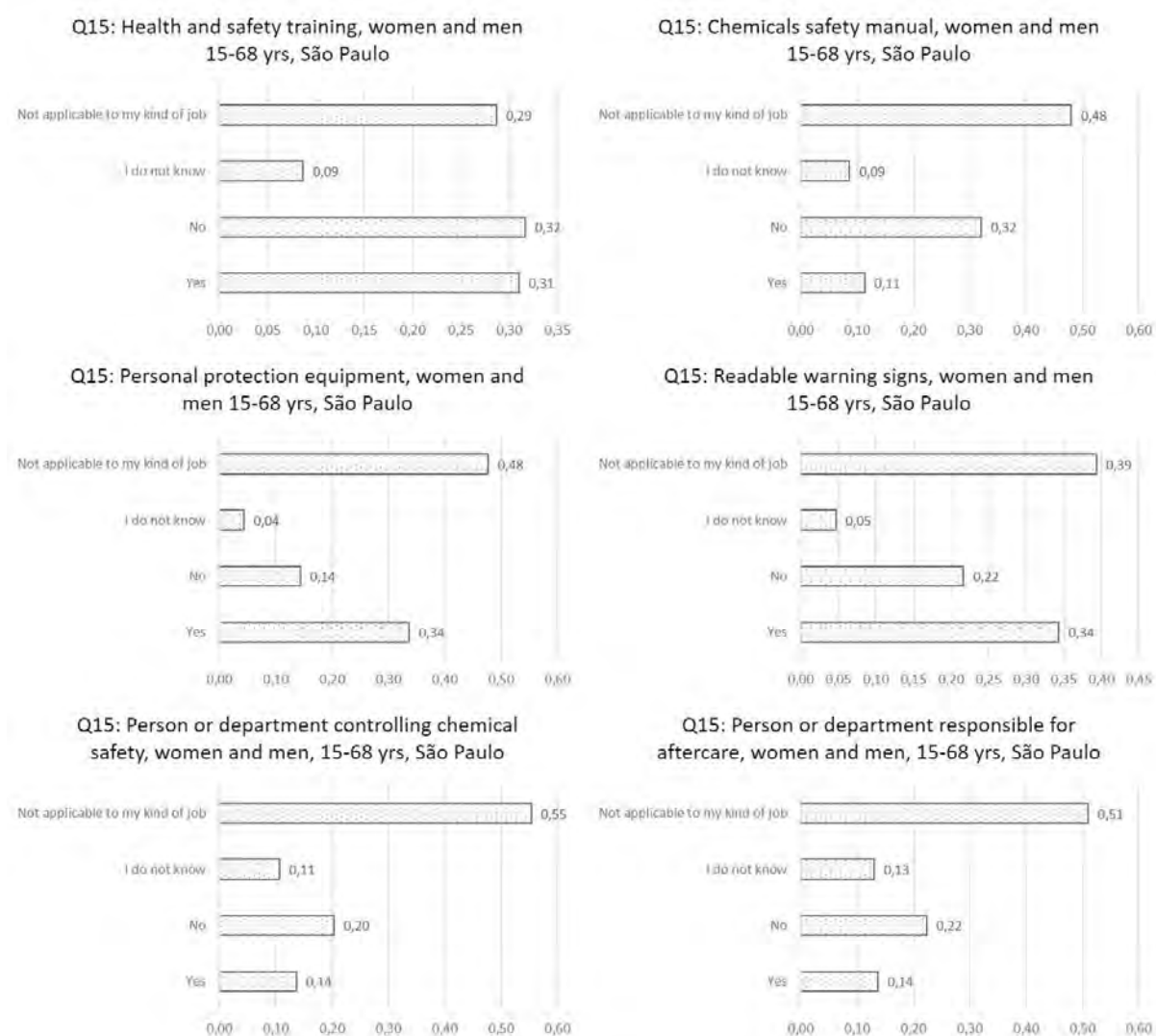
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, São Paulo).



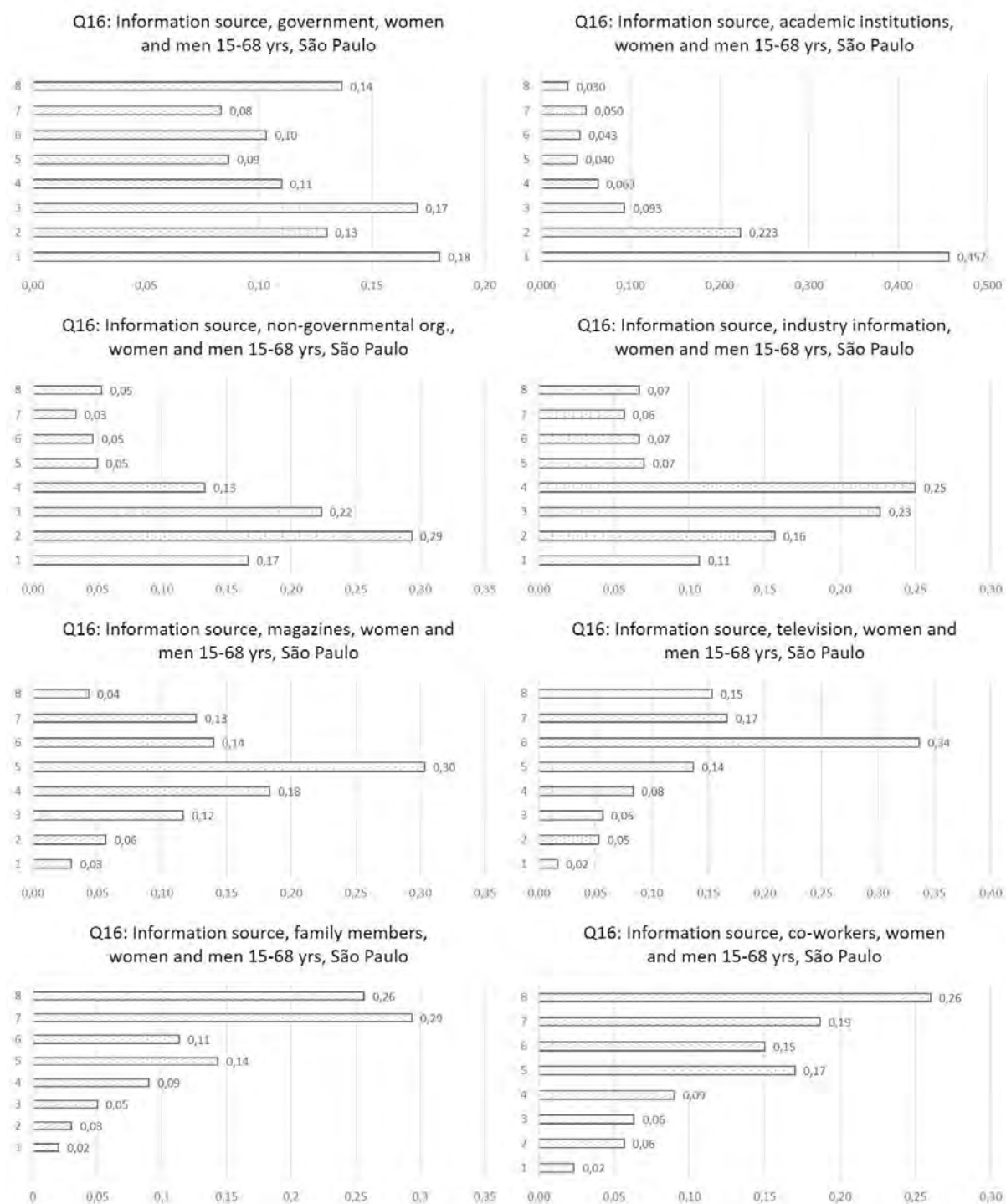
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, São Paulo).



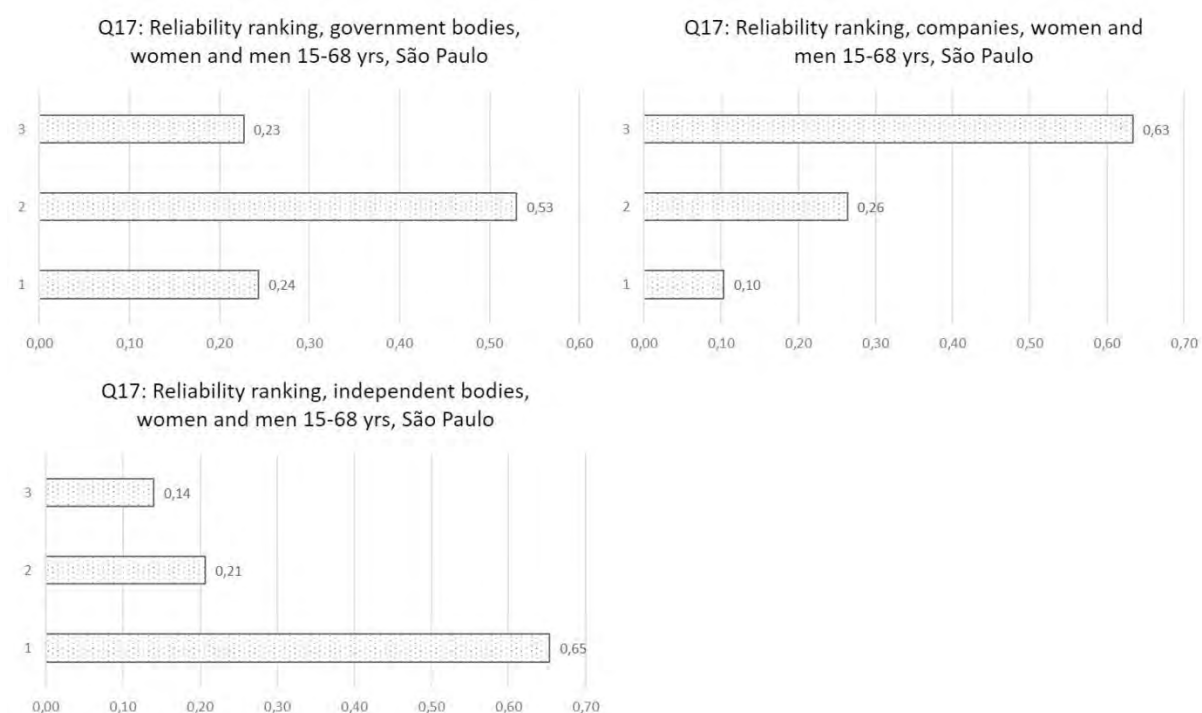
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, São Paulo).



**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, São Paulo).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, São Paulo). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, São Paulo). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

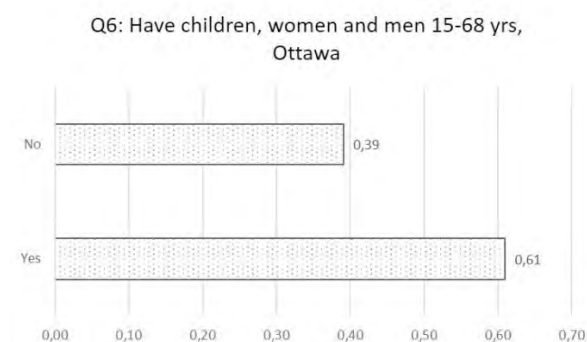


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, São Paulo). The poll participants could pick several of the available choices.

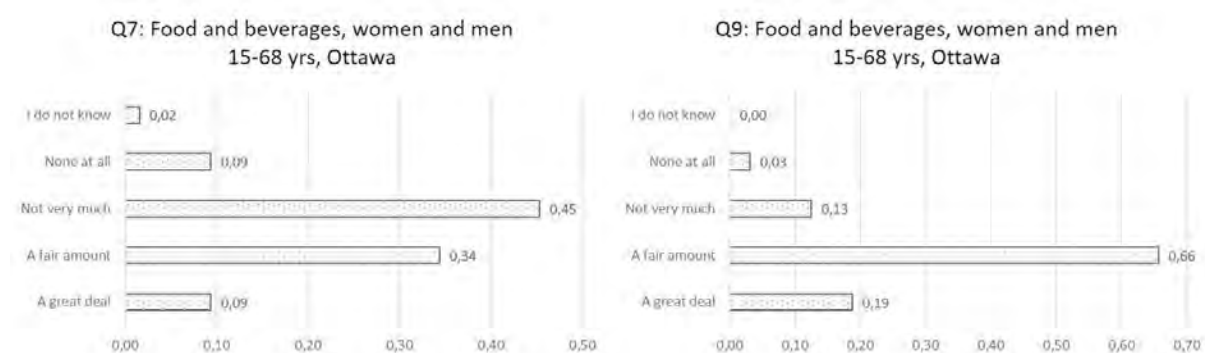
## Appendix E a)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.39 for the option “no” in Figure 1 implies that 39% of the poll respondents replied “no”; 0.61 for “yes” that 61% of the poll respondents replied “yes”.

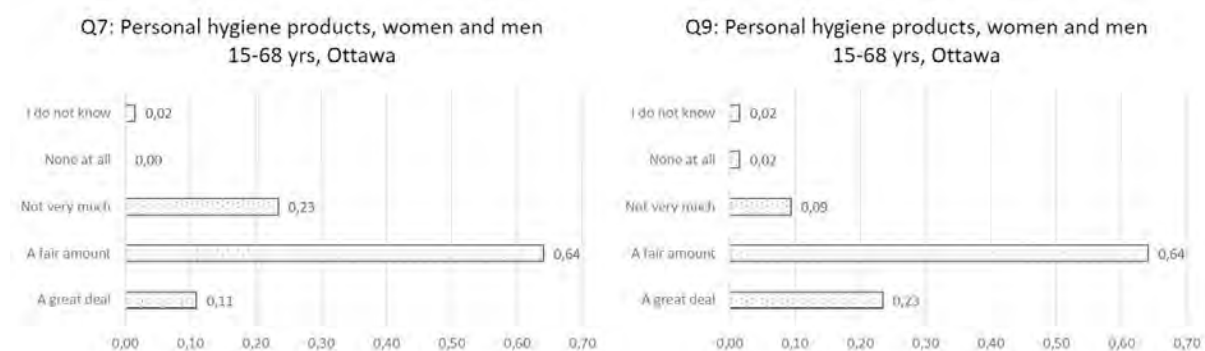
### Canada



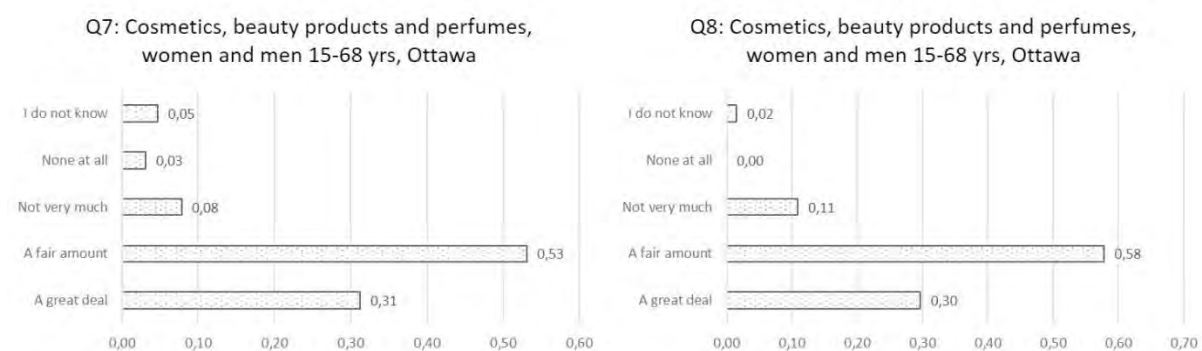
**Figure 1:** Share of poll participants with children or not (sample size: 64, Ottawa)



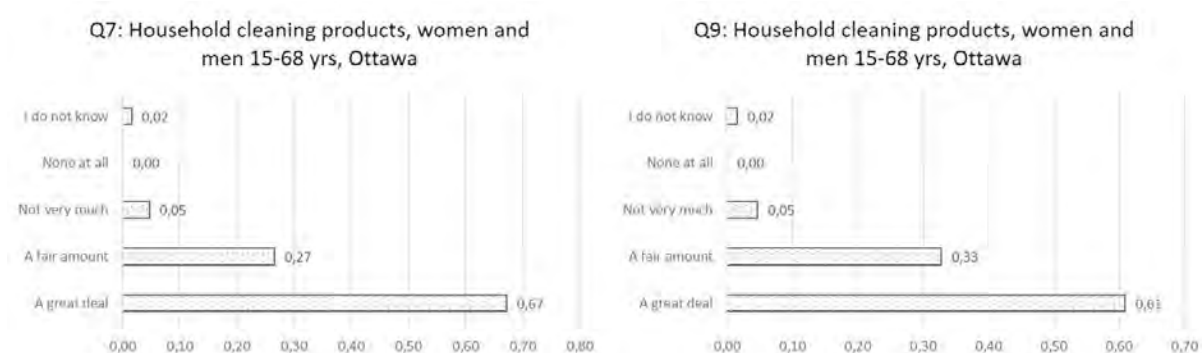
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 64, Ottawa).



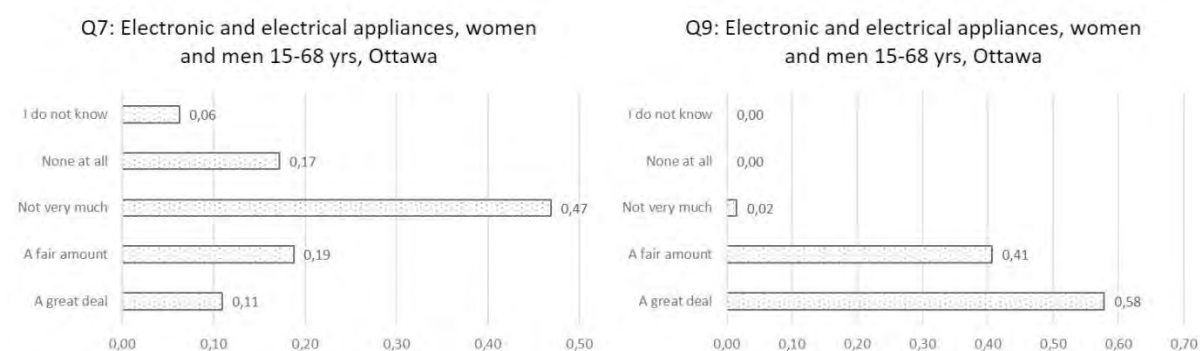
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 64, Ottawa).



**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 64, Ottawa).

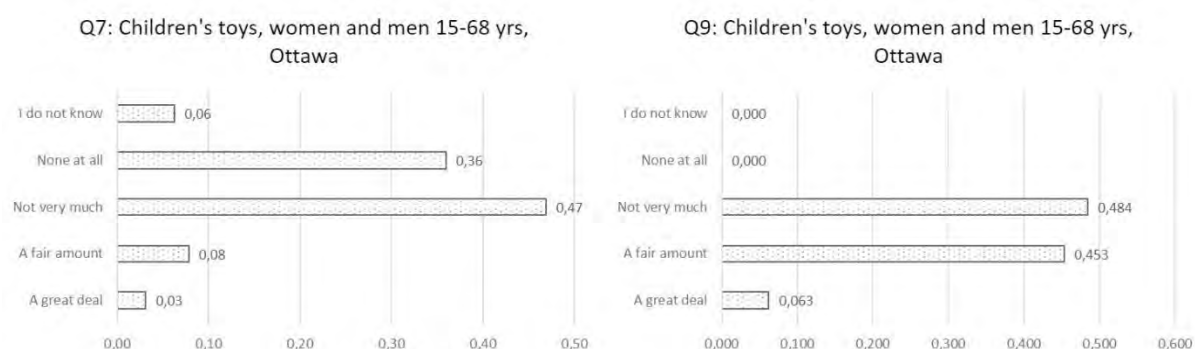


**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, beauty products and perfumes, share of poll participants (right hand graph) (sample size: 64, Ottawa).

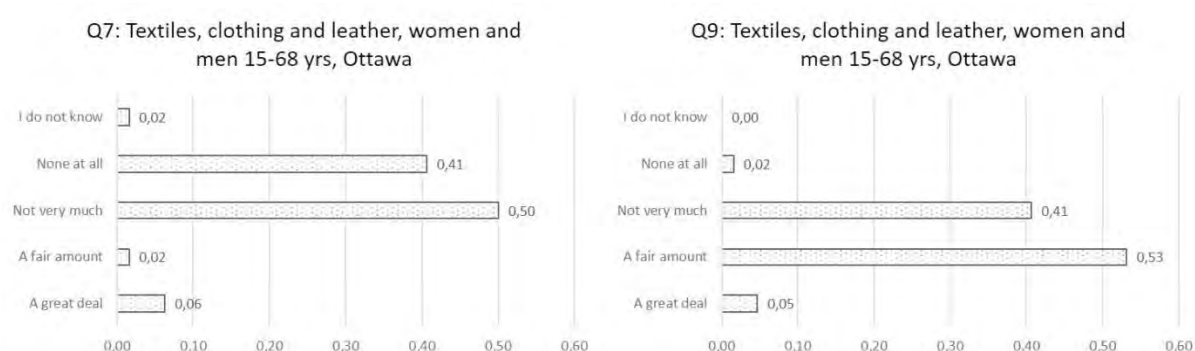


**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals to health from electronic and electric appliances (right hand graph), share of poll participants (sample size: 64, Ottawa).

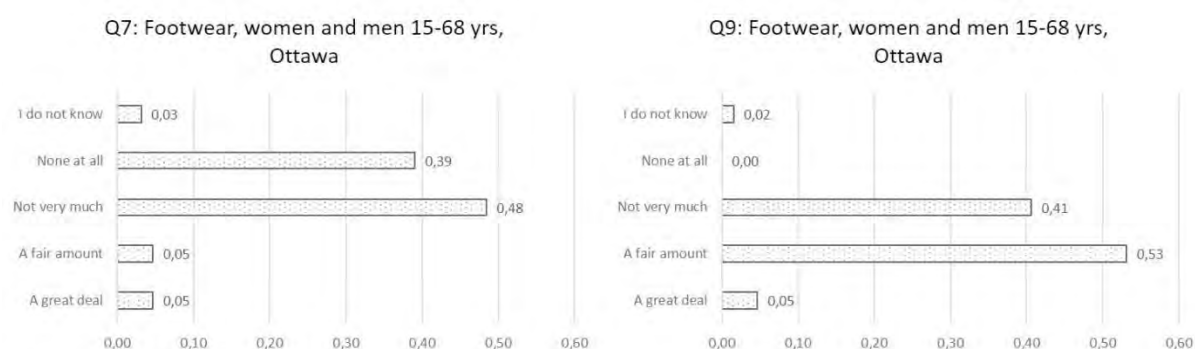




**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 64, Ottawa).



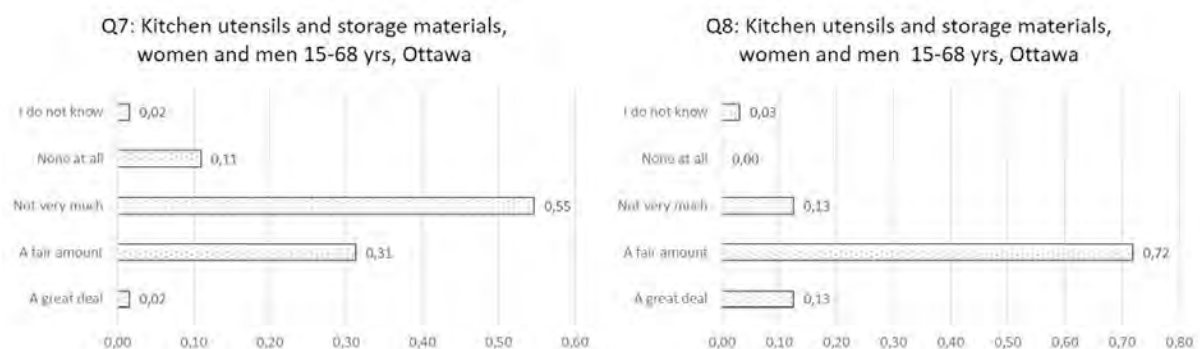
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 64, São Ottawa).



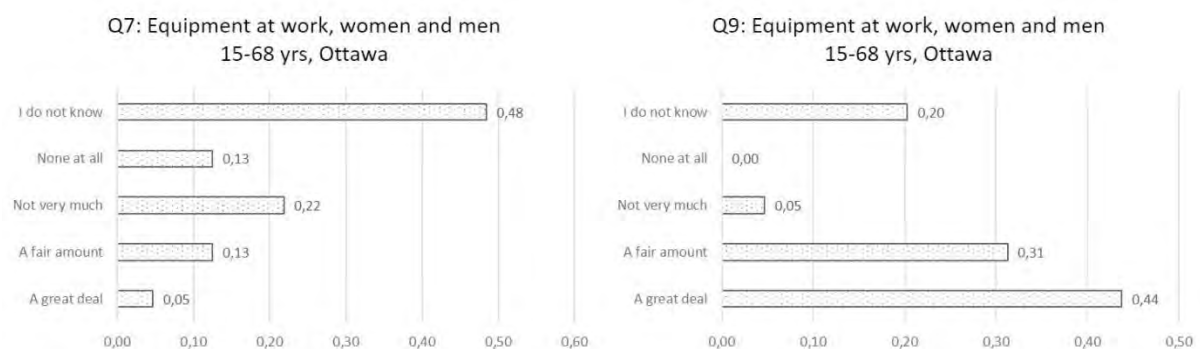
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 64, Ottawa).



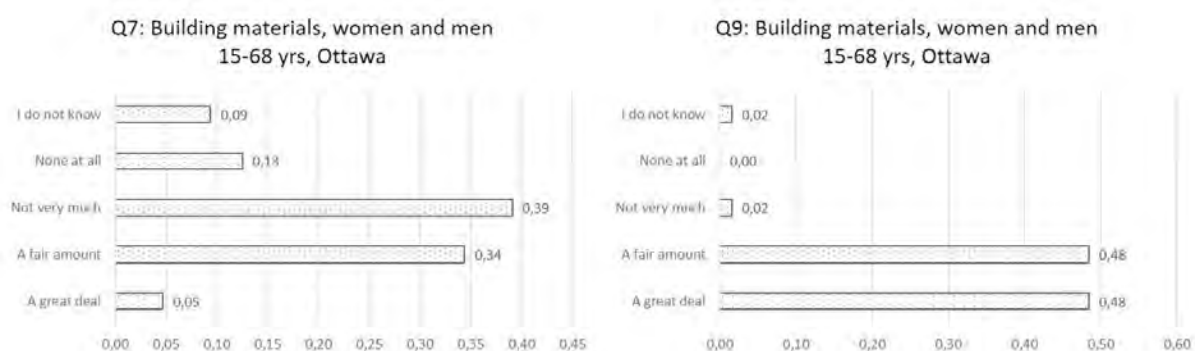
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 64, Ottawa).



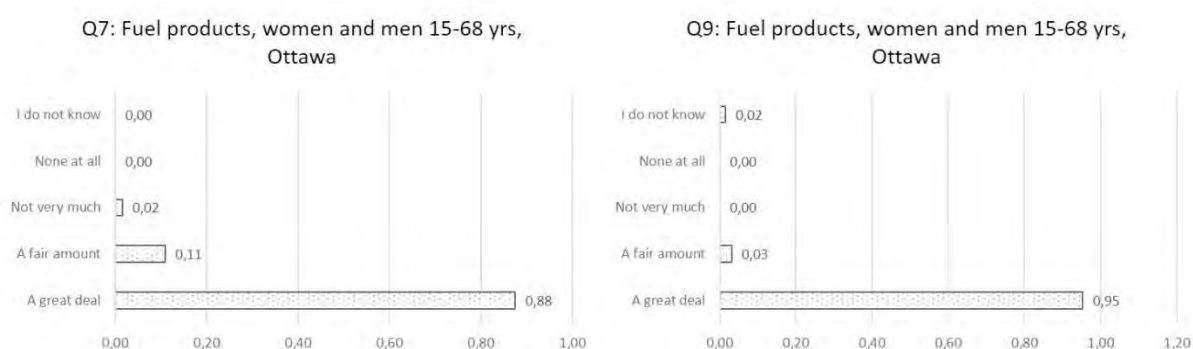
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage and contact materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 64, Ottawa).



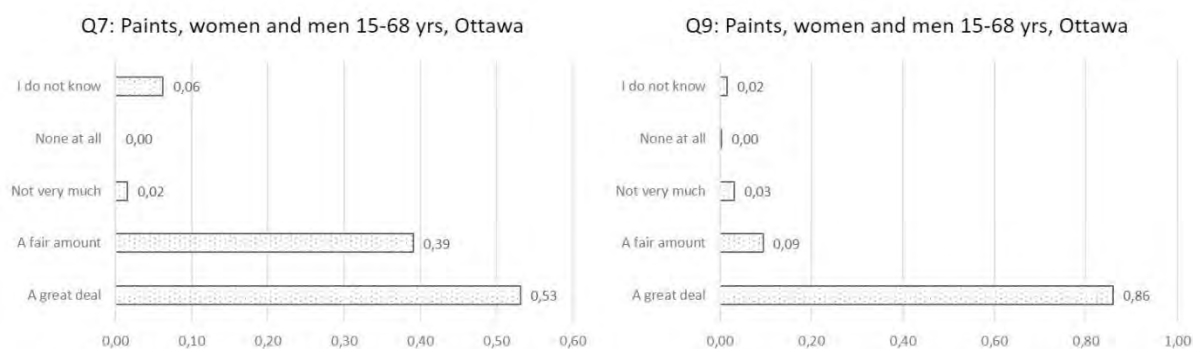
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 64, Ottawa).



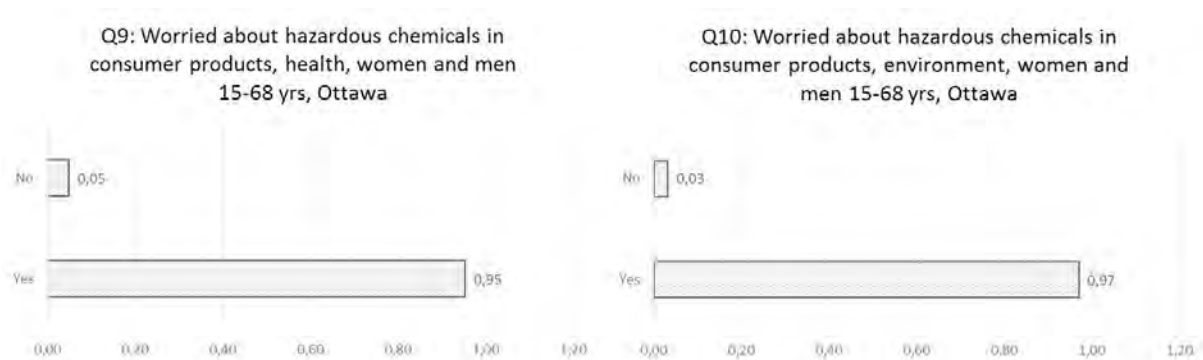
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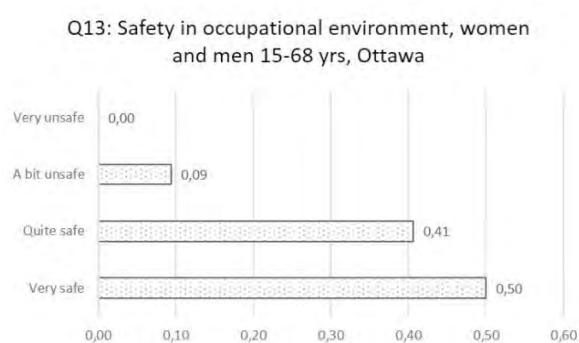
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 64, Ottawa).



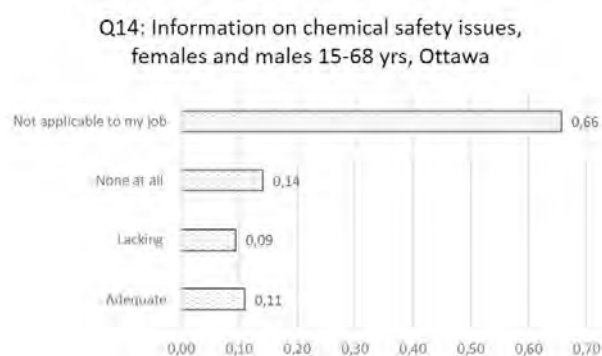
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 64, Ottawa).



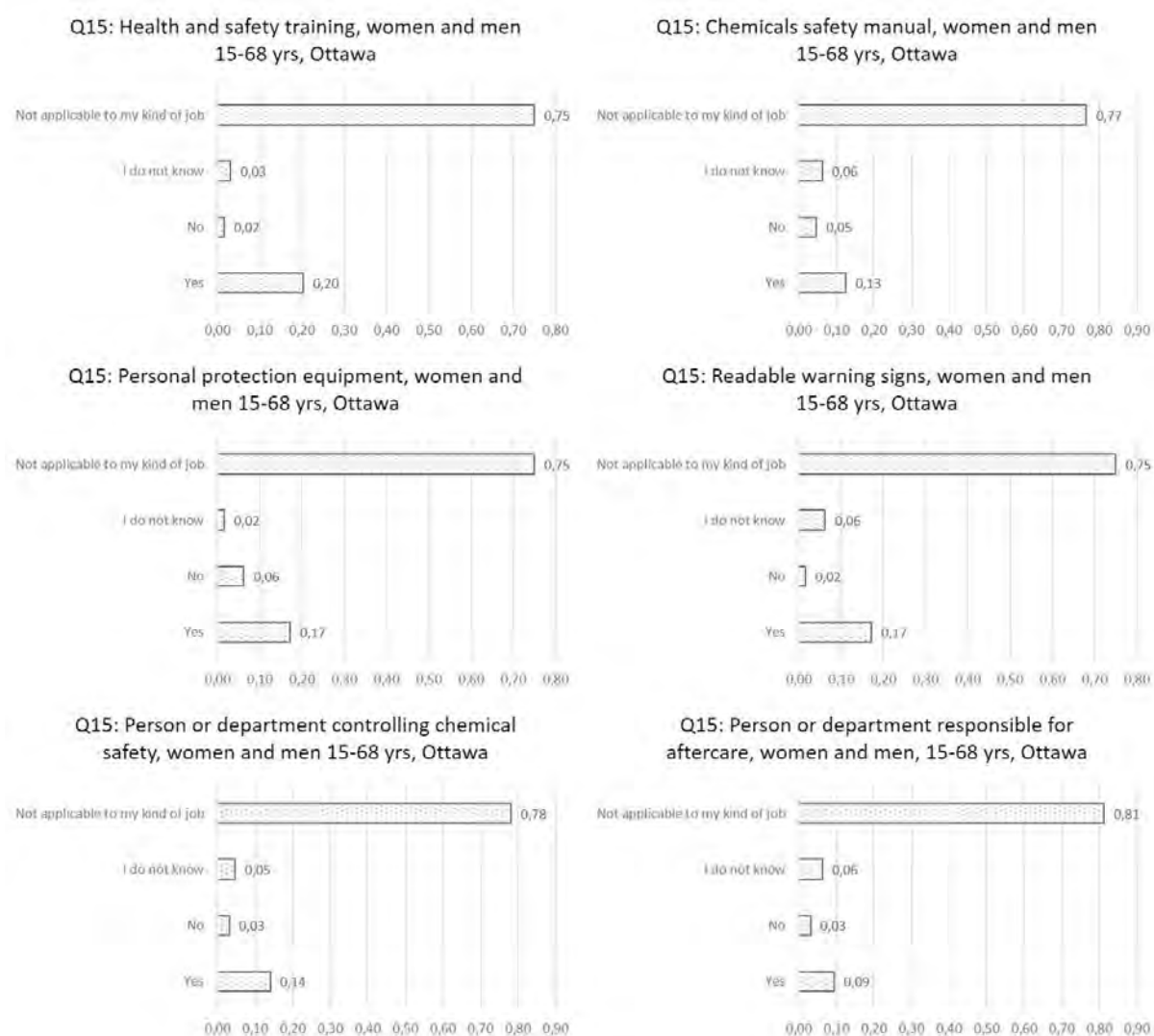
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 64, Ottawa).



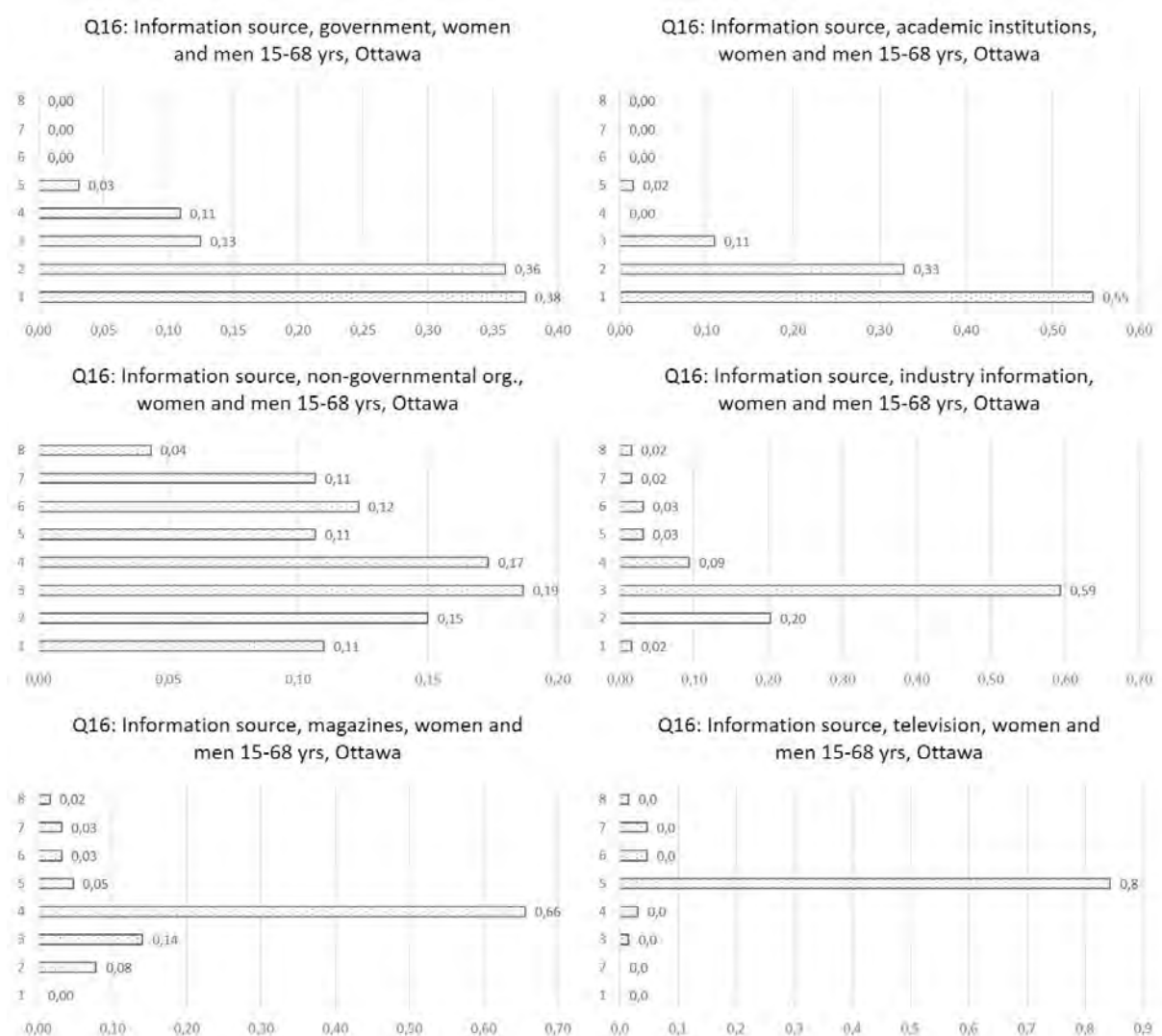
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 64, Ottawa).



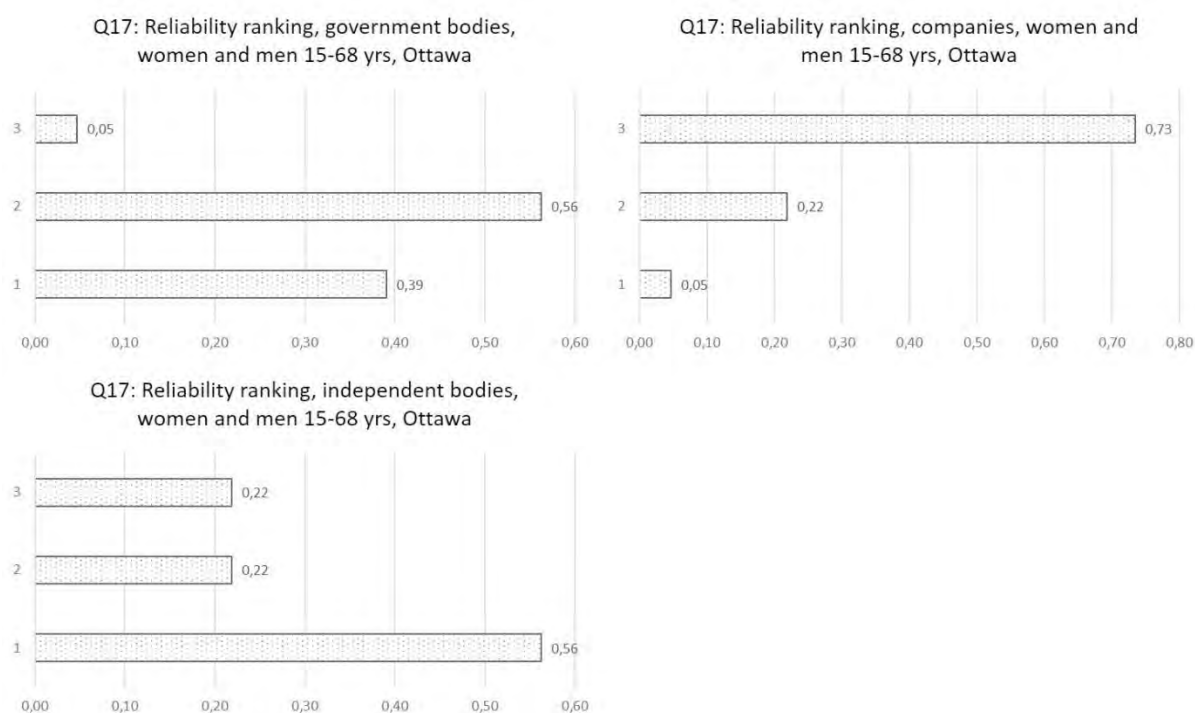
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 64, Ottawa).



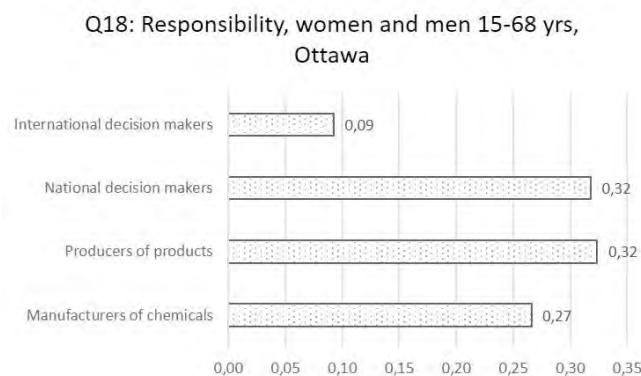
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 64, Ottawa).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 64, São Ottawa). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



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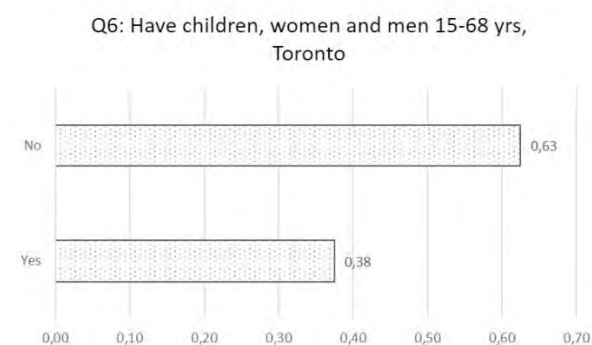


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 64, Ottawa). The poll participants could pick several of the available choices.

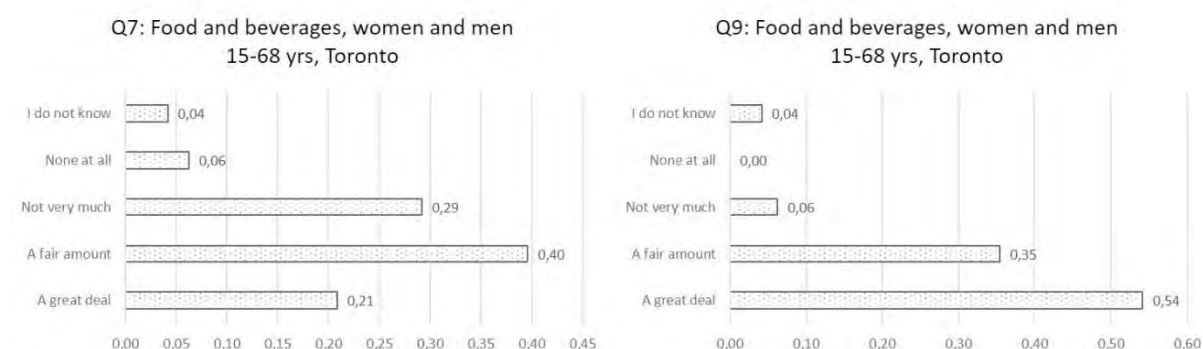
## Appendix E b)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.63 for the option “no” in Figure 1 implies that 63% of the poll respondents replied “no”; 0.38 that 38% of the poll respondents replied “yes”.

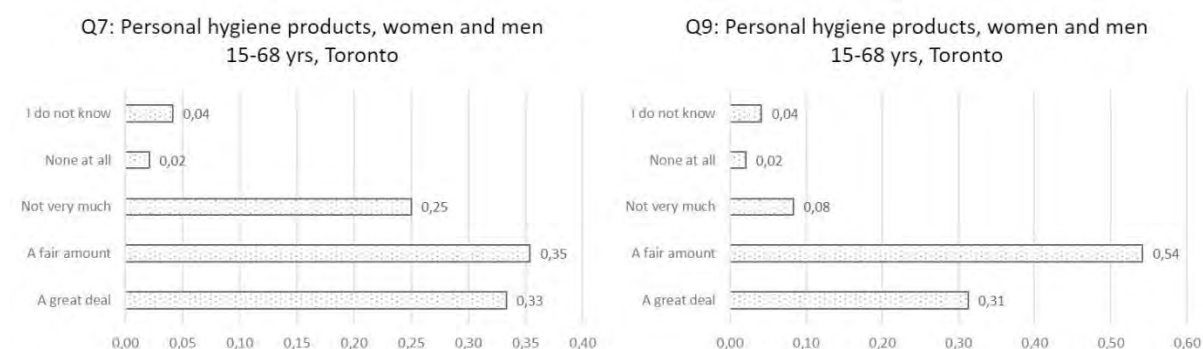
### Canada



**Figure 1:** Share of poll participants with children or not (sample size: 48, Toronto)

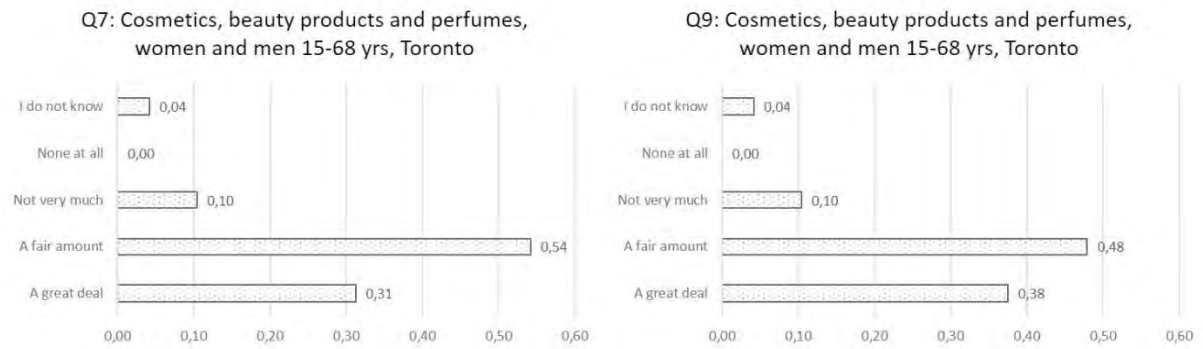


**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 48, Toronto).

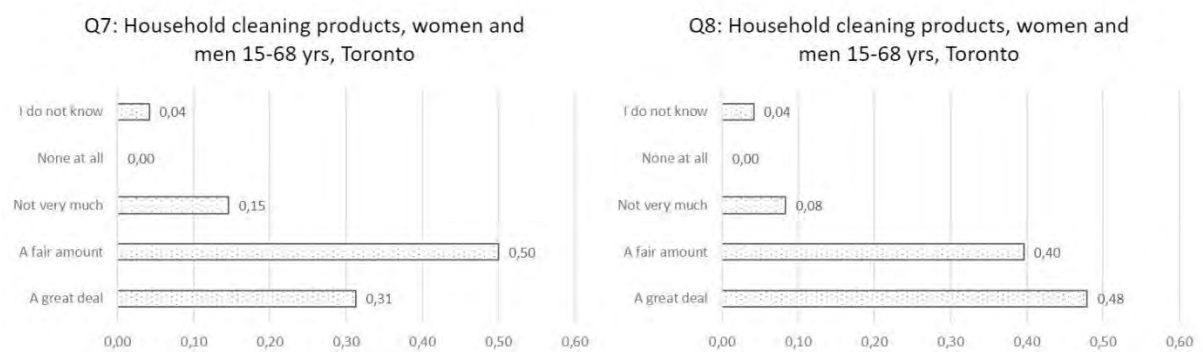


**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 48, Toronto).

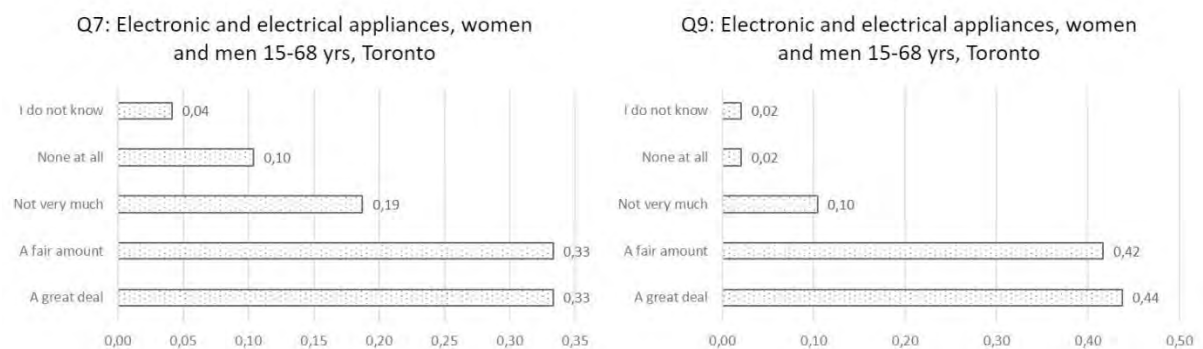




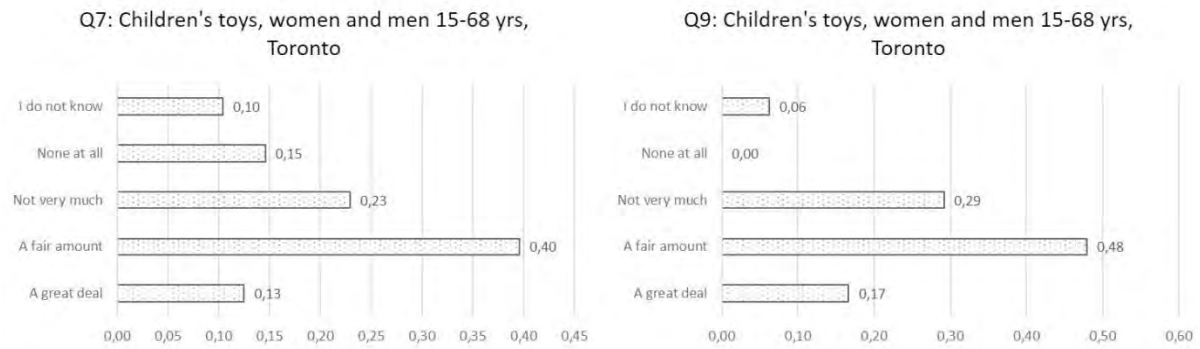
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 48, Toronto).



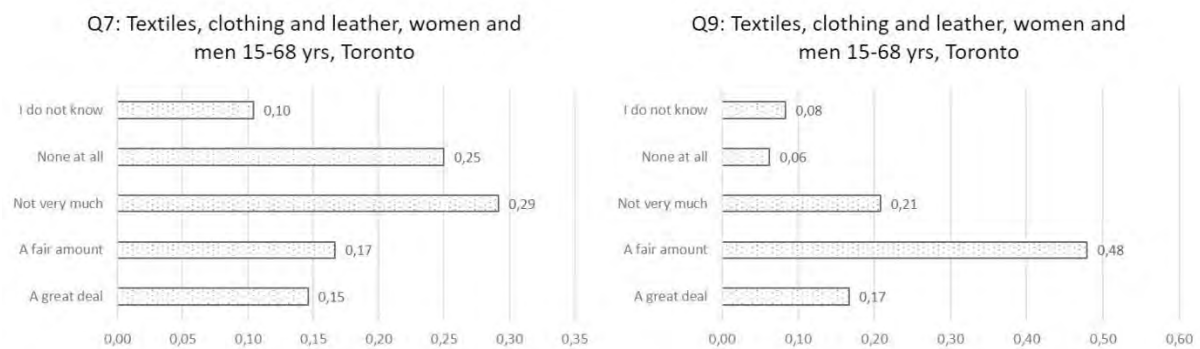
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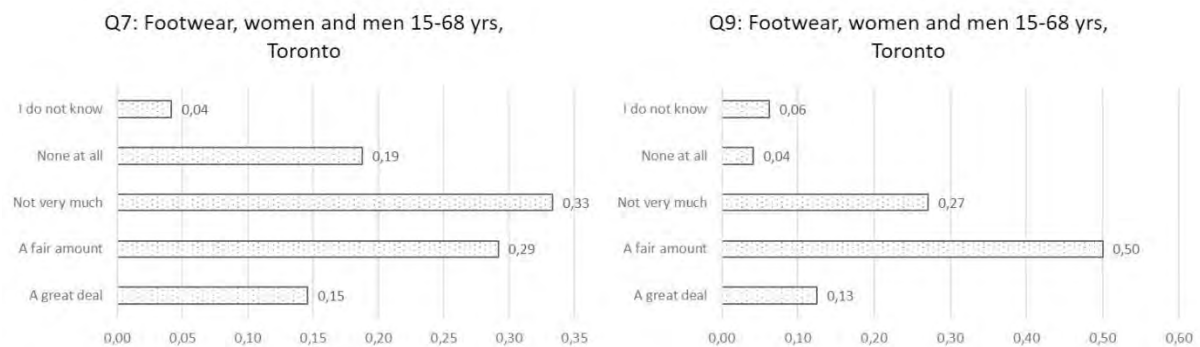
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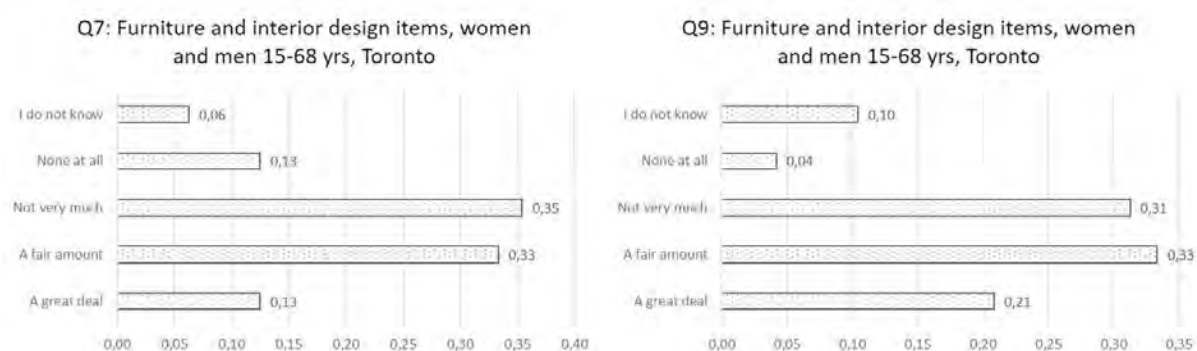
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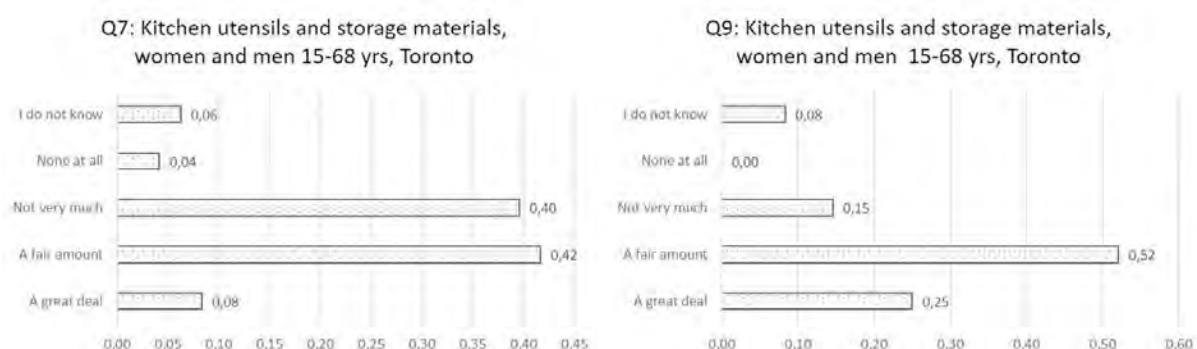
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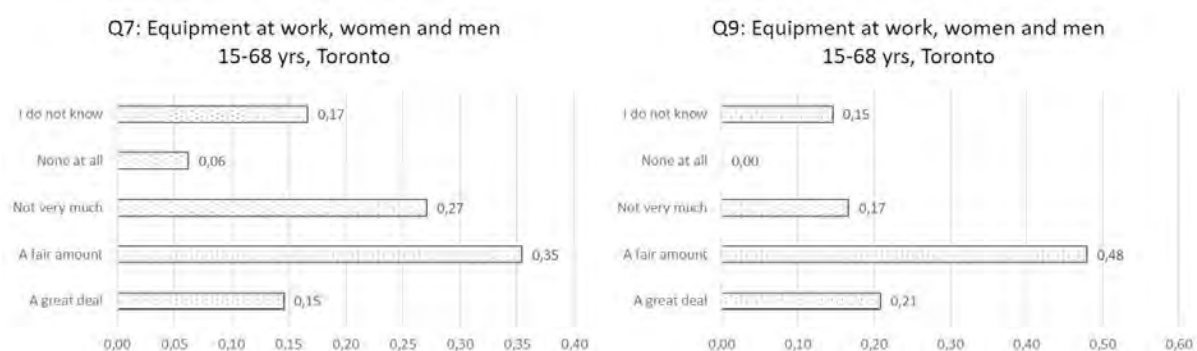
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 48, Toronto).



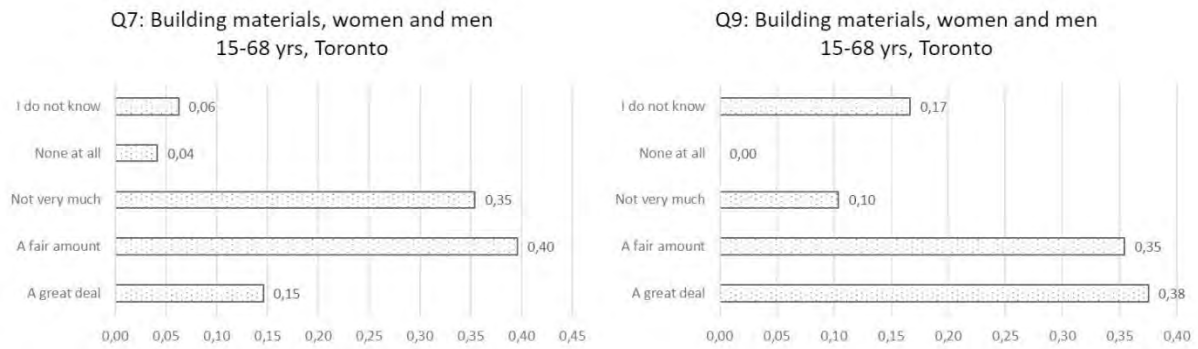
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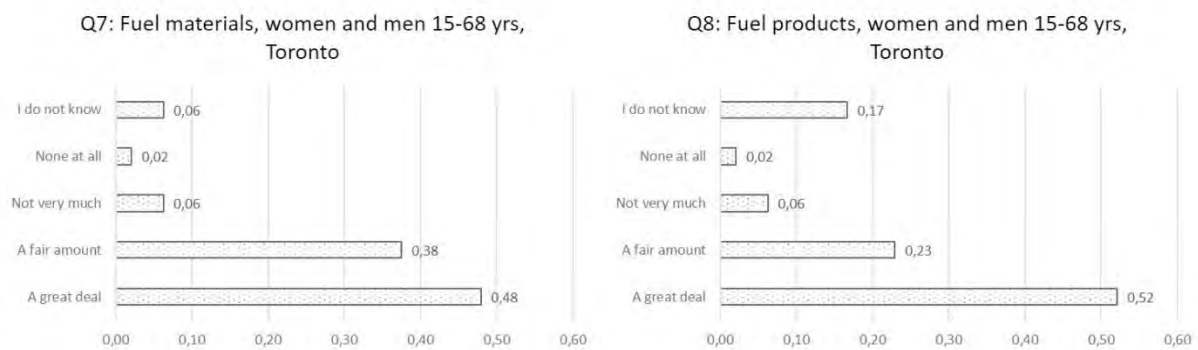
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage and contact materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 48, Toronto).



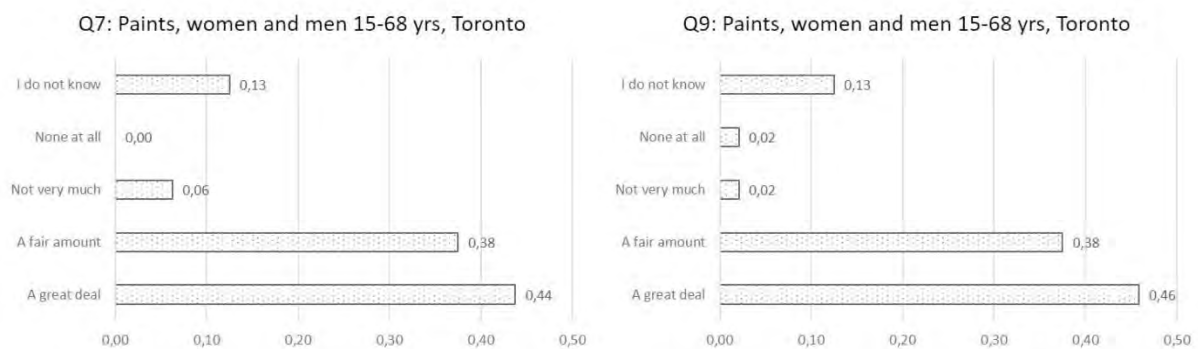
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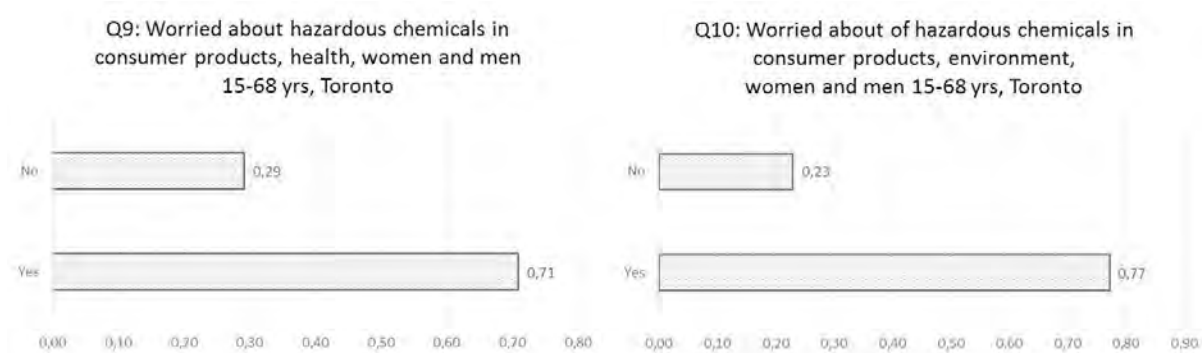
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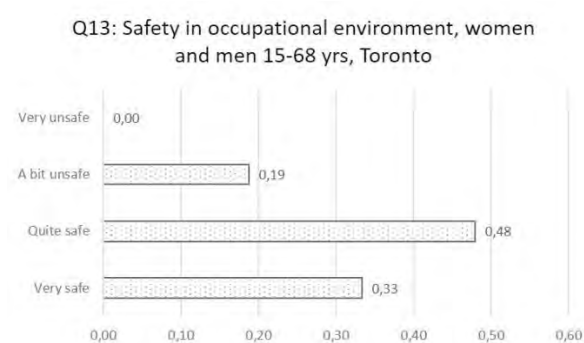
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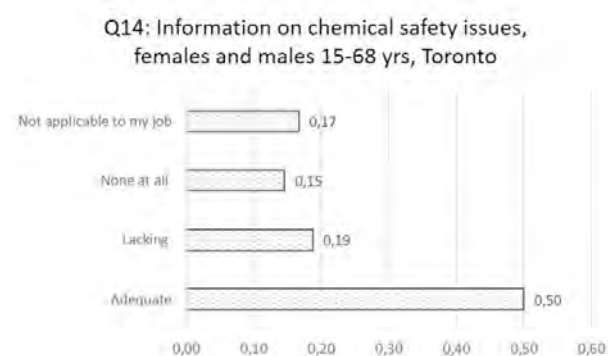
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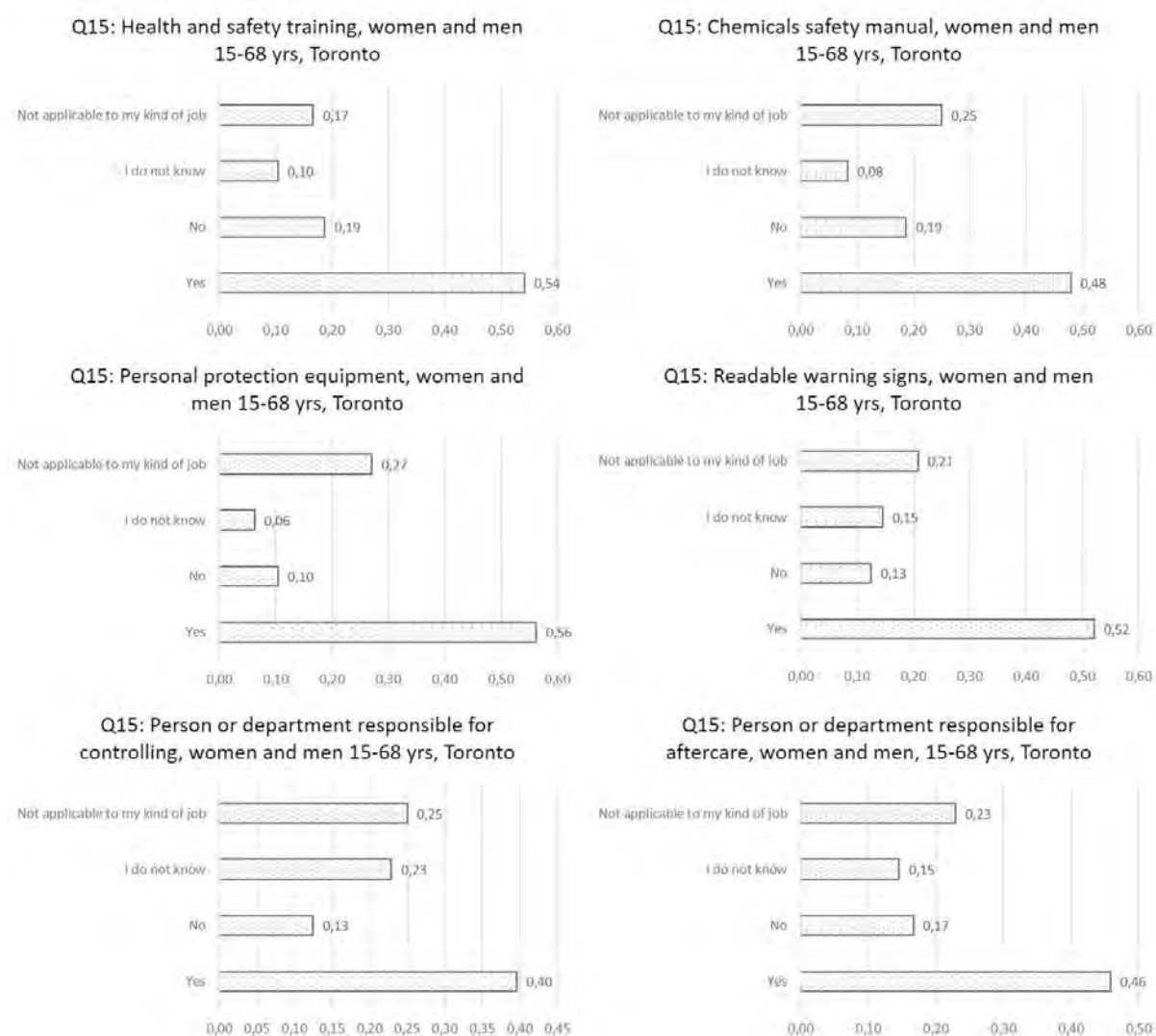
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 48, Toronto).



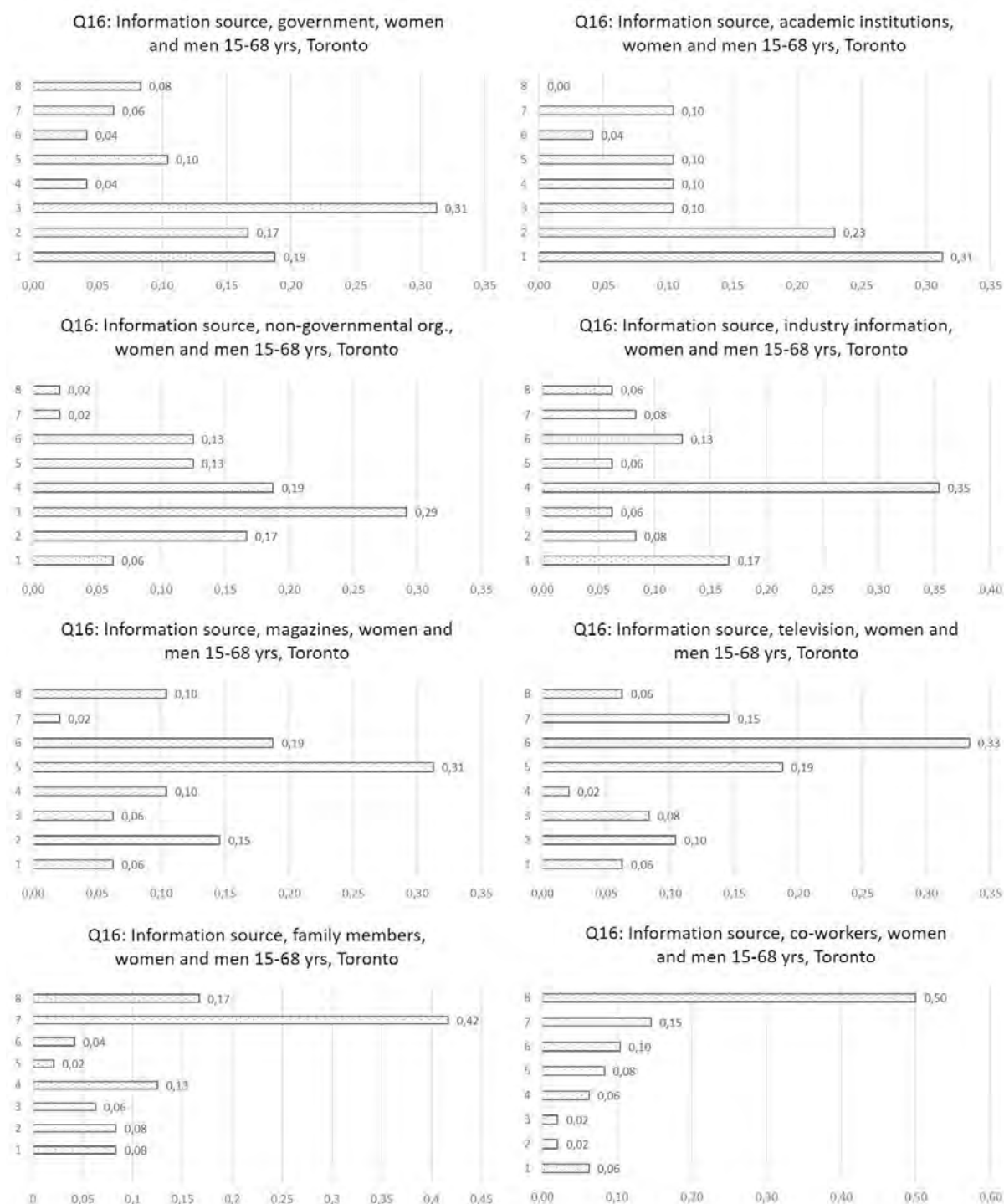
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 48, Toronto).



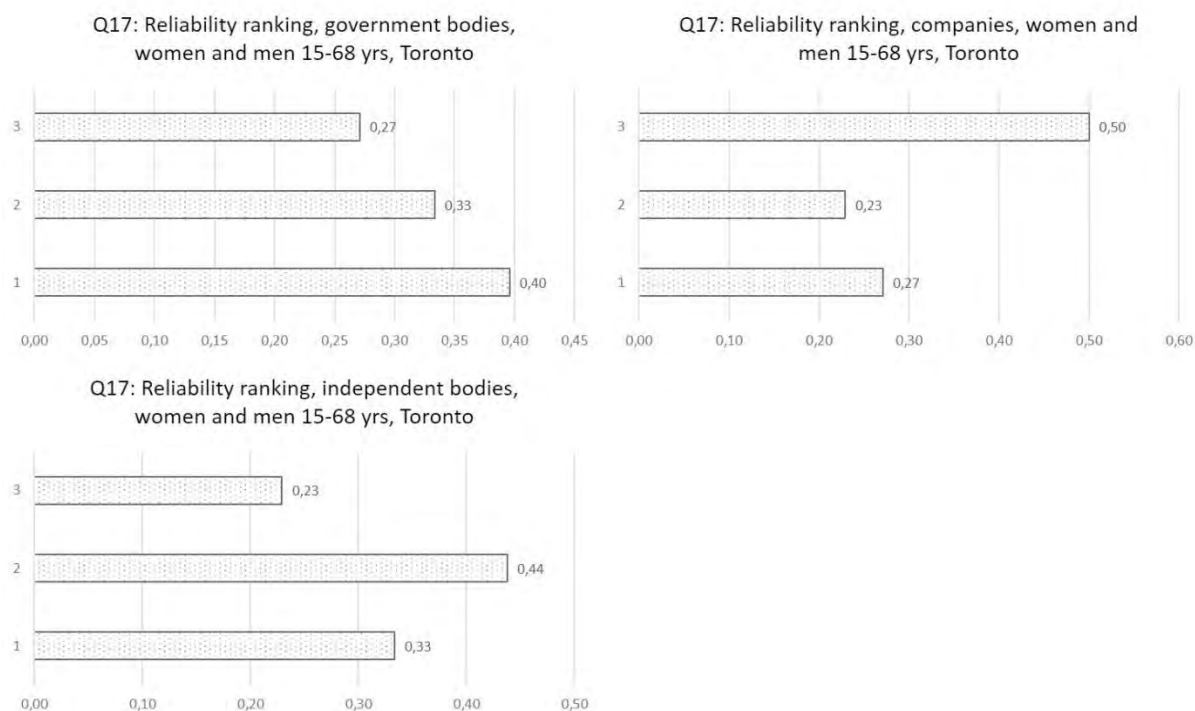
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 48, Toronto).



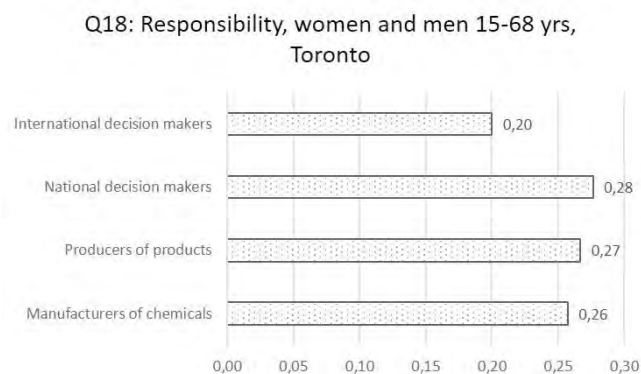
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**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 48, Toronto). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



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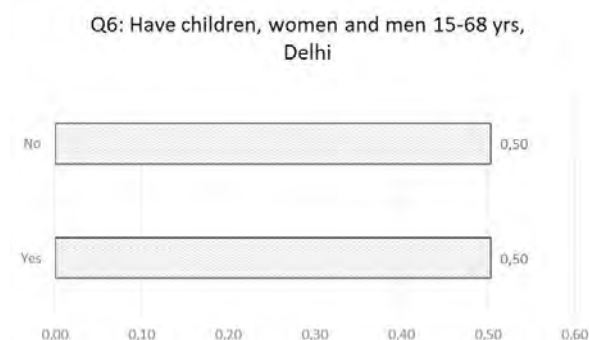
**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 48, Toronto). The poll participants could pick several of the available choices.



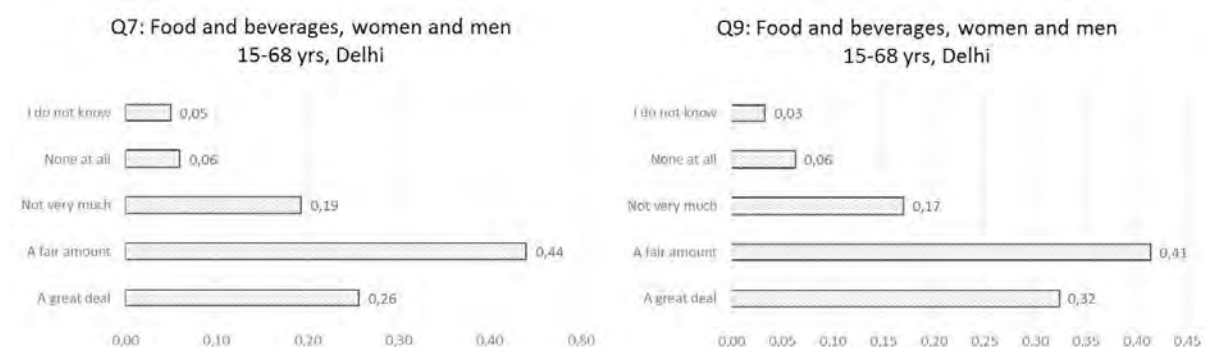
## Appendix F

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.50 for the option “no” in Figure 1 implies that 50% of the poll respondents replied “no”; 0.50 that 50% of the poll respondents replied “yes”.

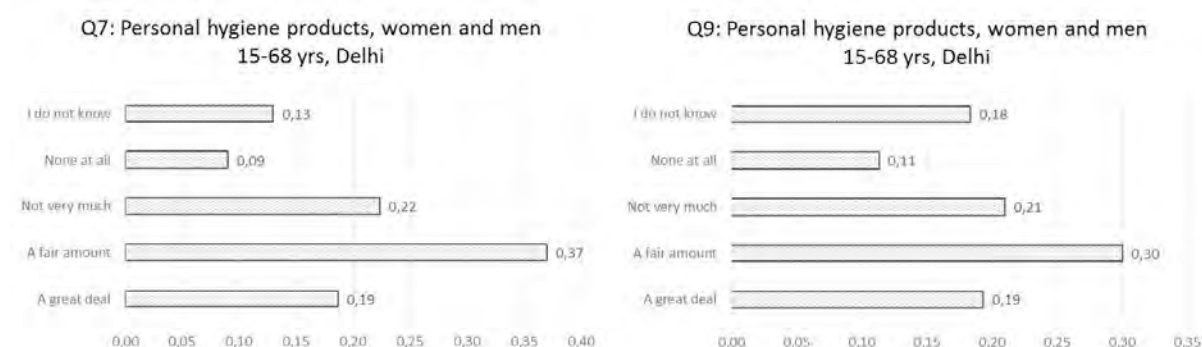
### India



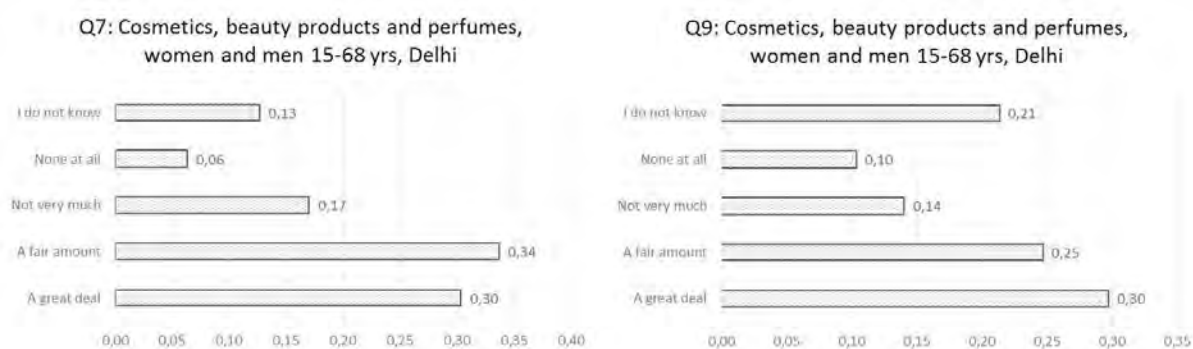
**Figure 1:** Share of poll participants with children or not (sample size: 300, Delhi)



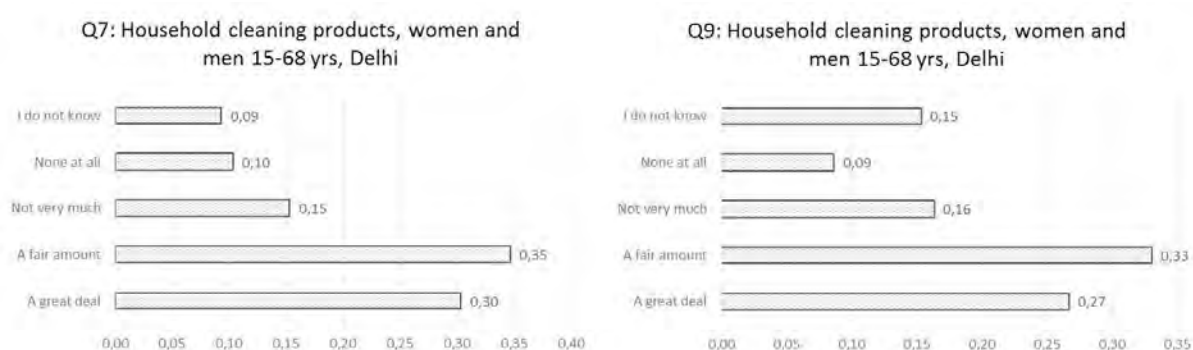
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Delhi).



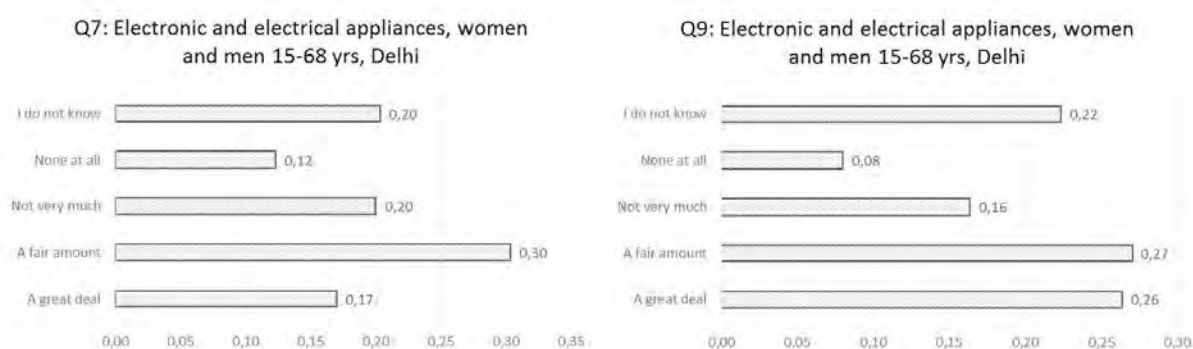
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Delhi).



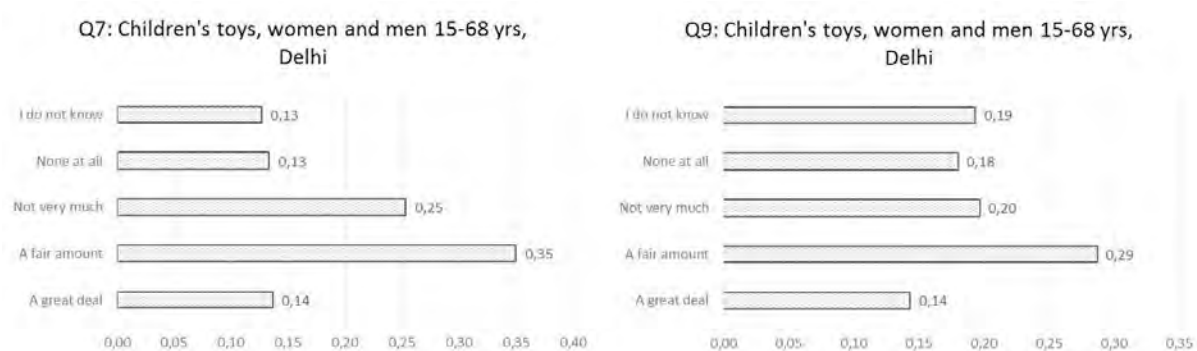
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 300, Delhi).



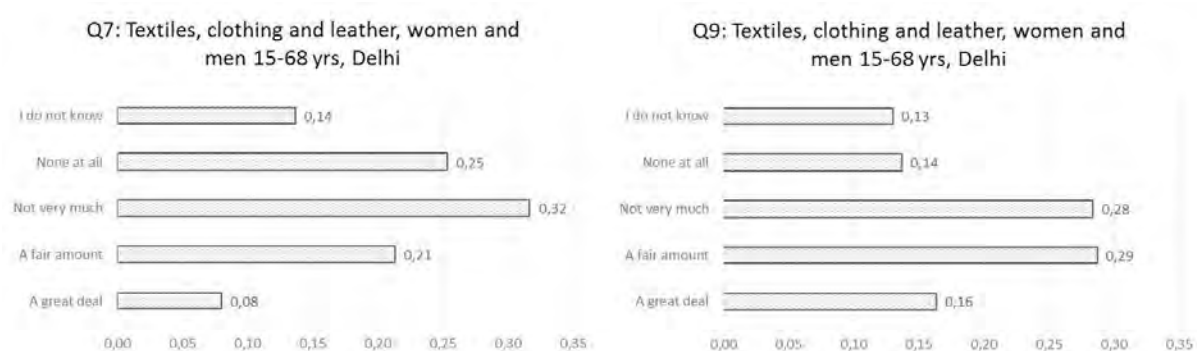
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, share of poll participants (right hand graph) (sample size: 300, Delhi).



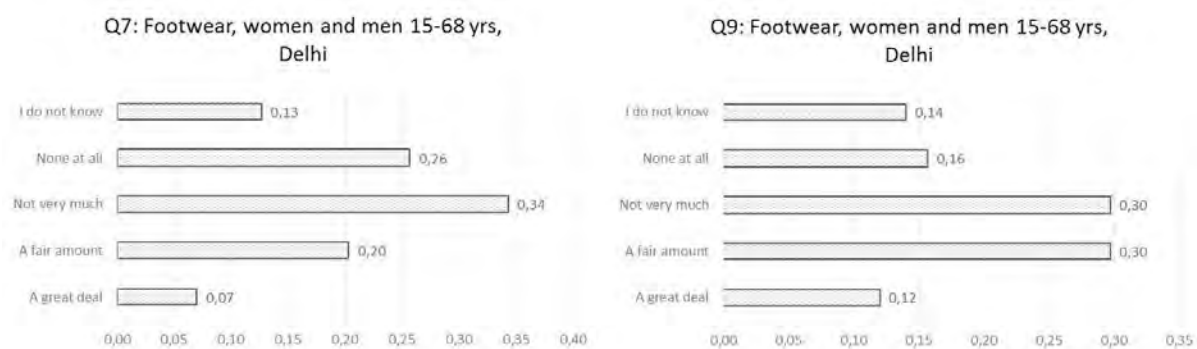
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Delhi).



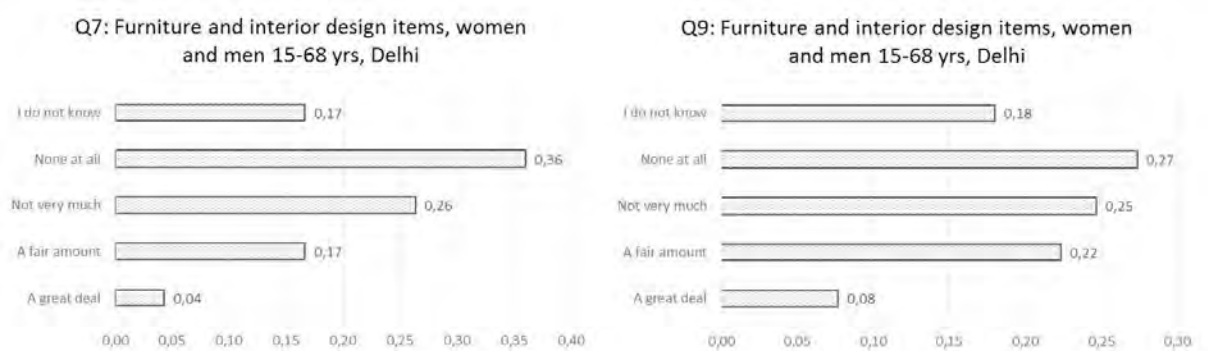
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Delhi).



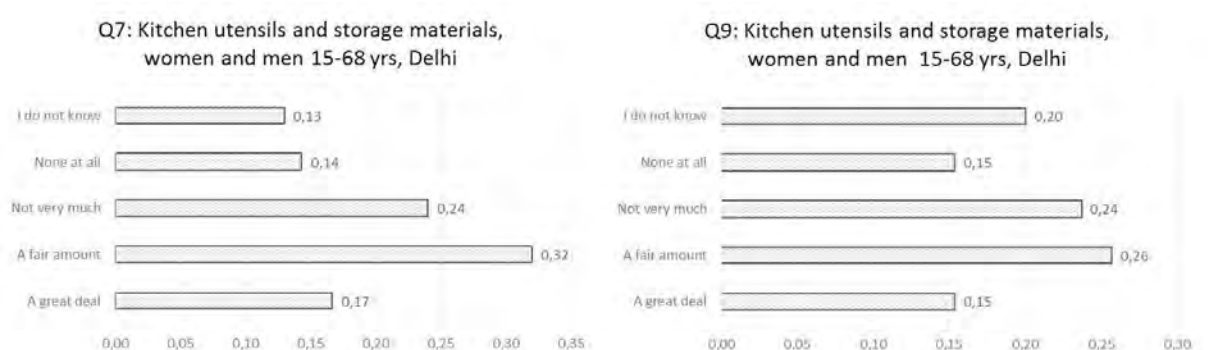
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Delhi).



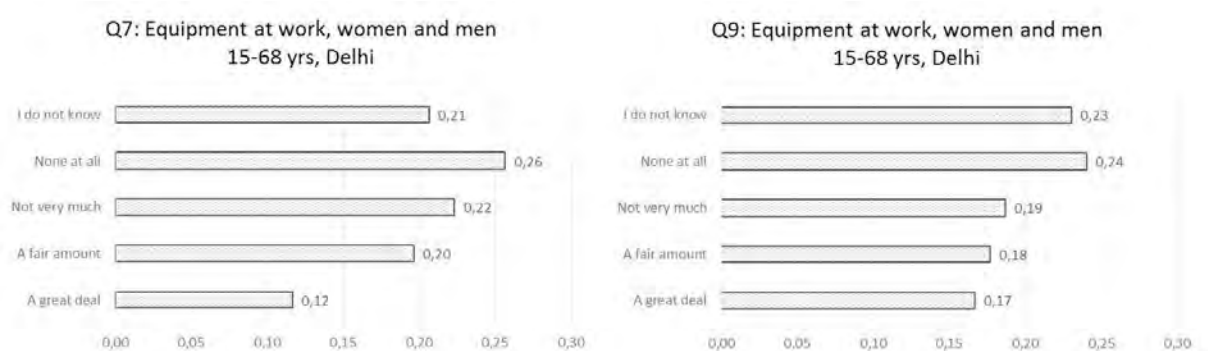
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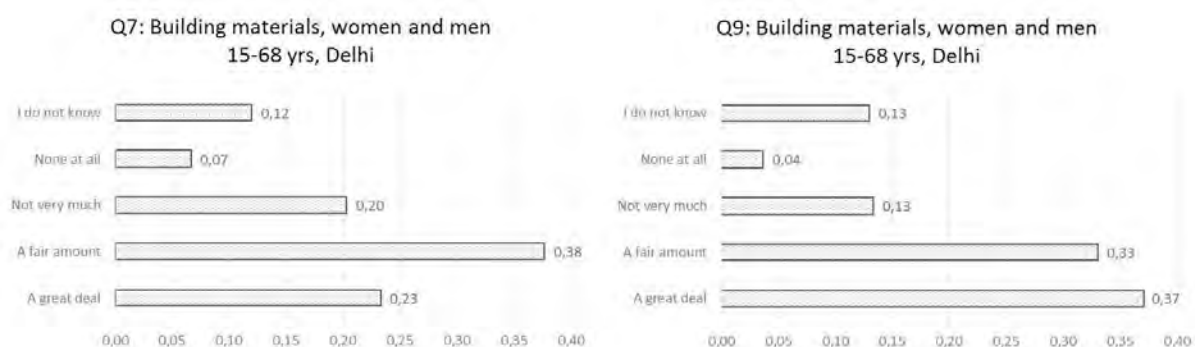
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Delhi)).



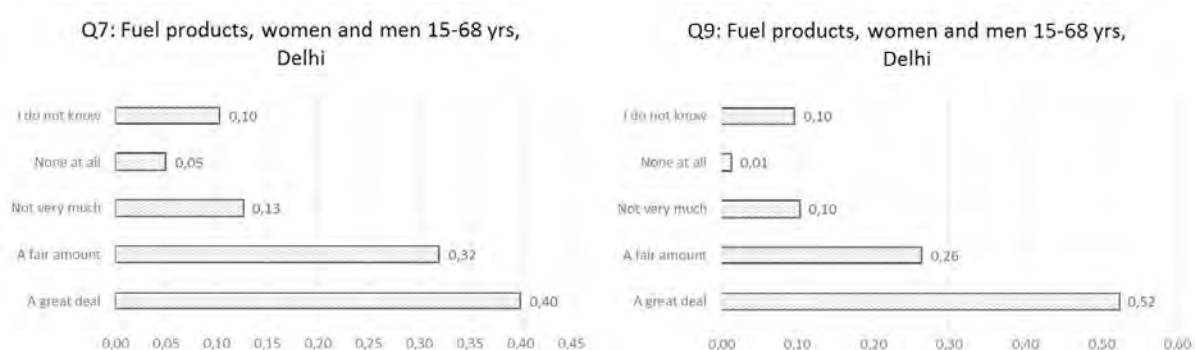
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Delhi)).



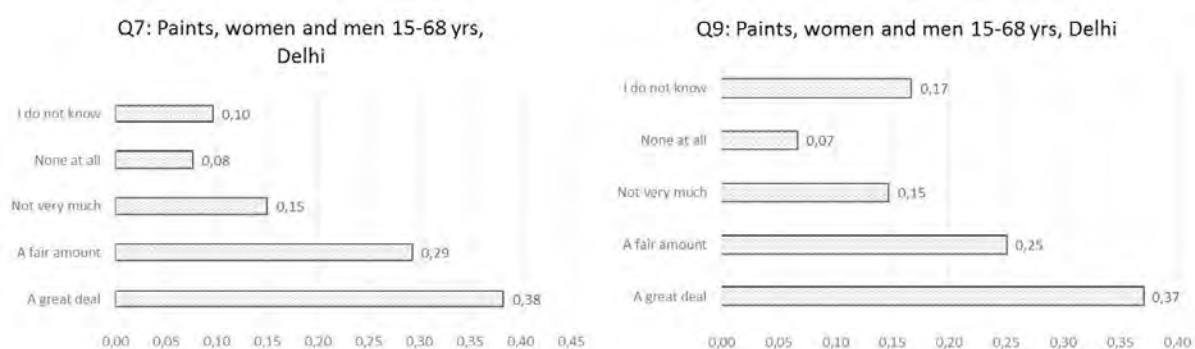
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Delhi)).



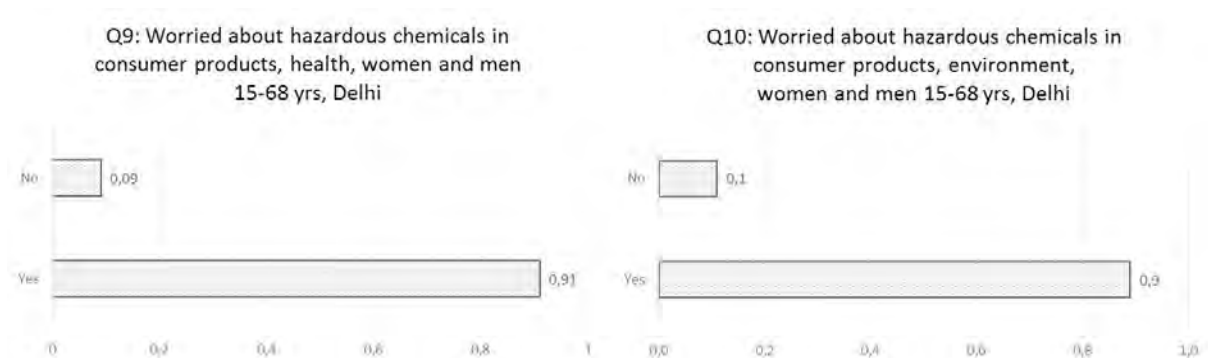
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, Delhi)).



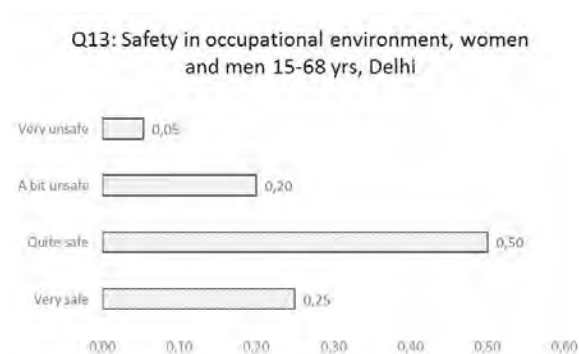
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, Delhi)).



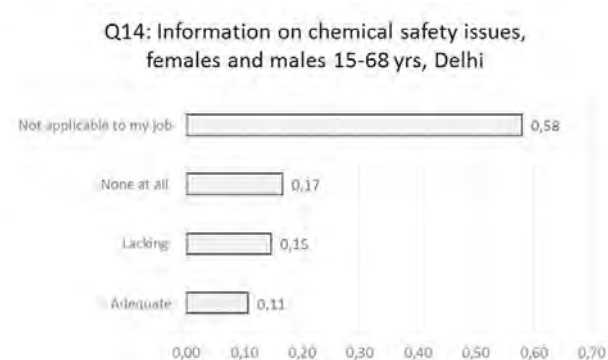
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Delhi)).



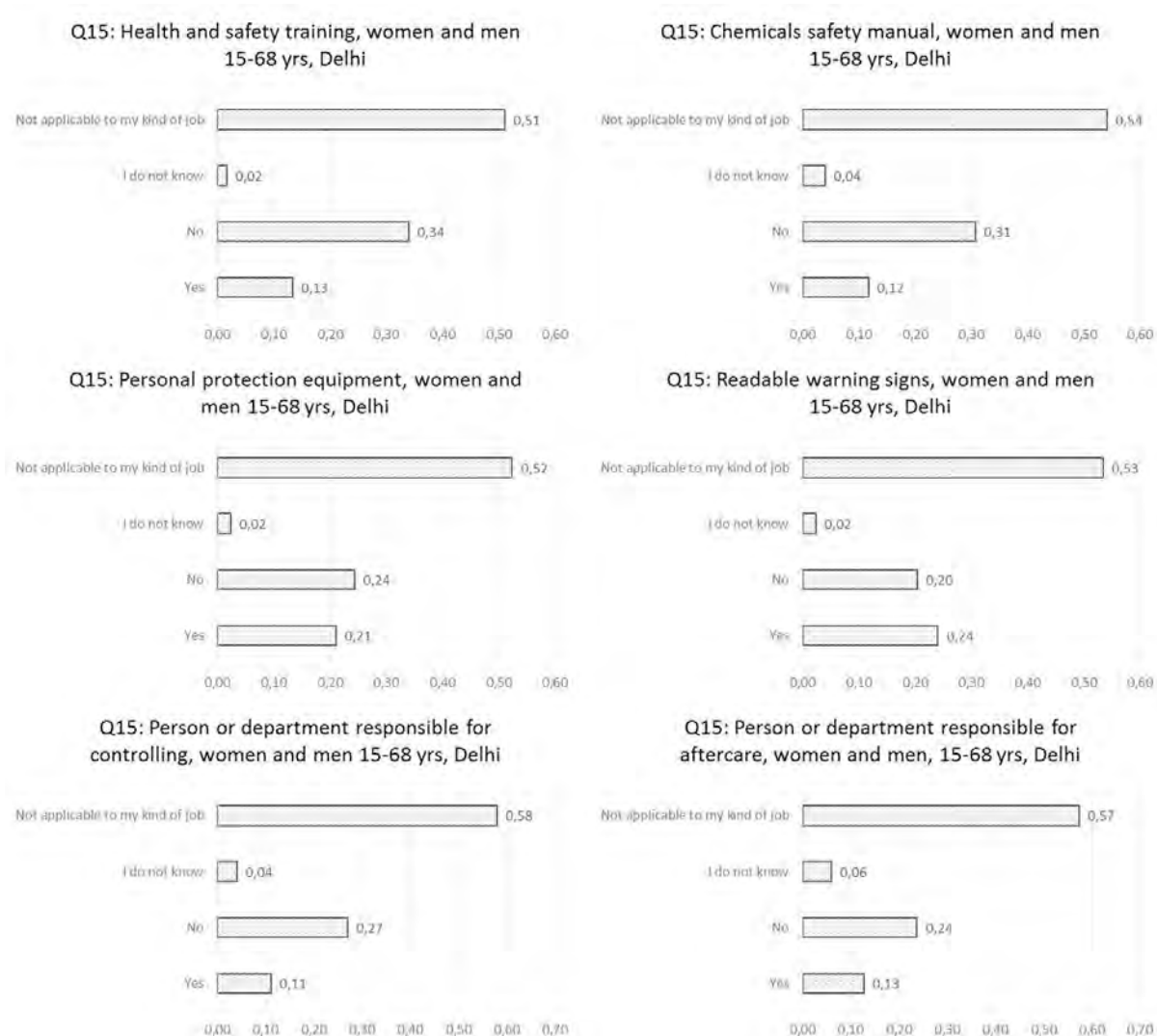
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Delhi).



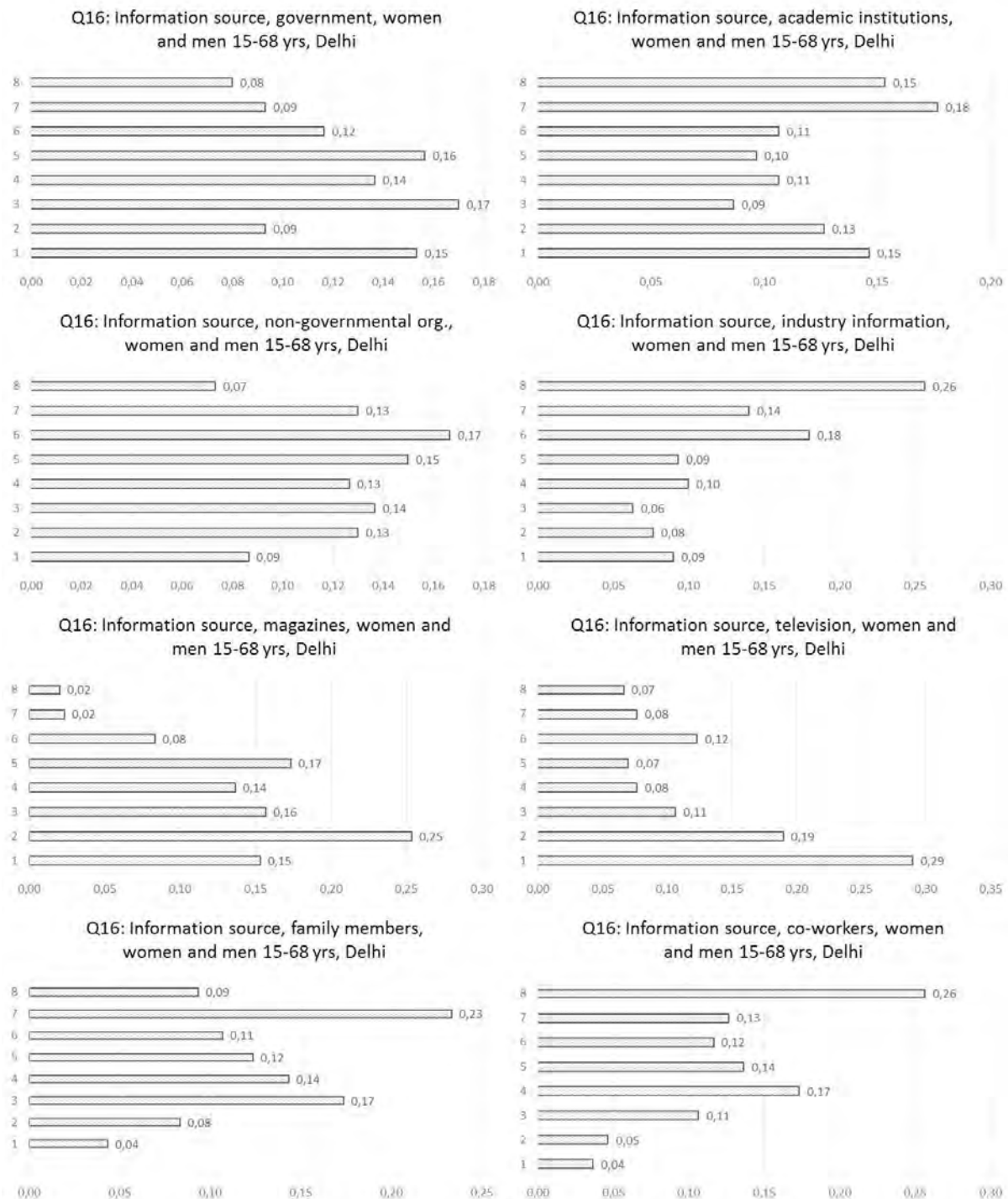
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Delhi).



**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Delhi).

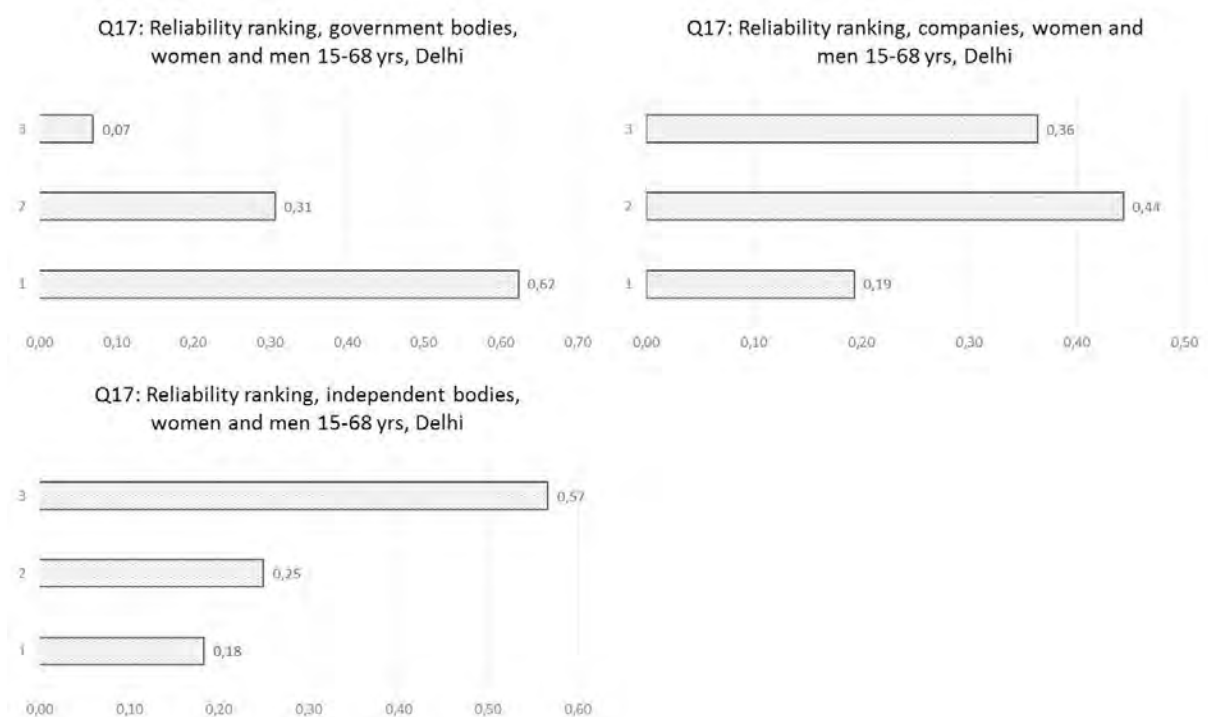


**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Delhi).

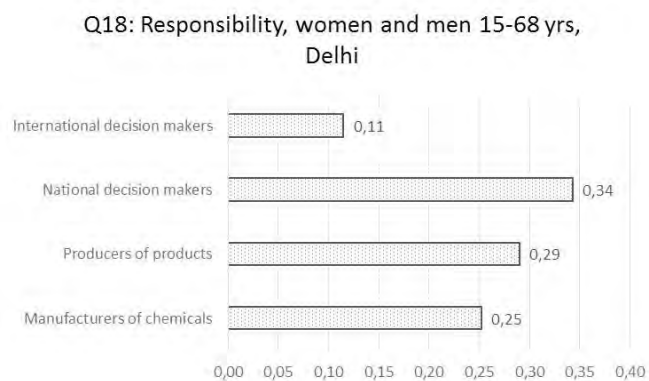


**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Delhi). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.





**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, Delhi). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

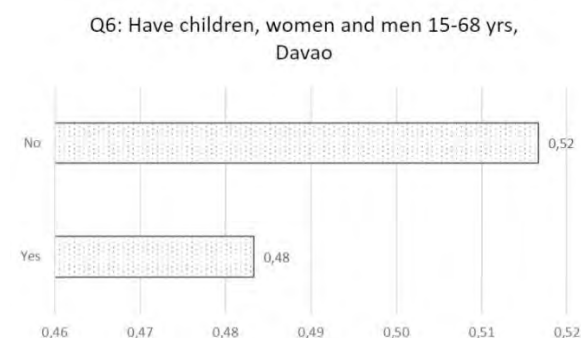


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Delhi). The poll participants could pick several of the available choices.

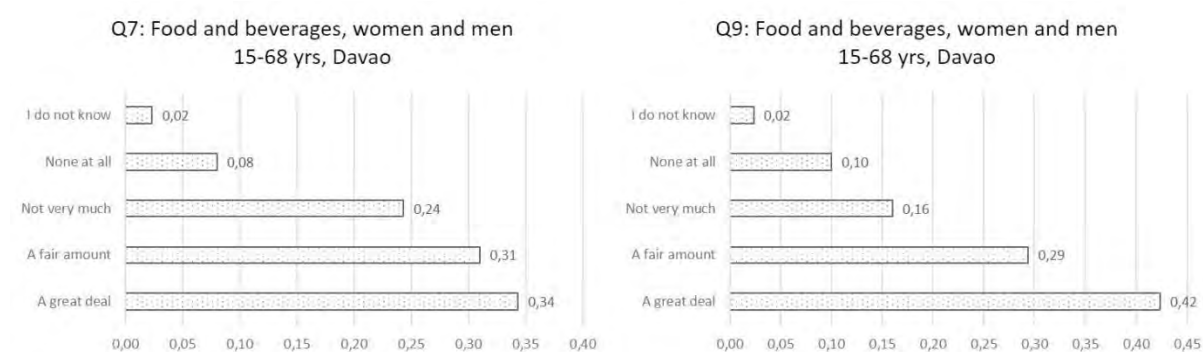
## Appendix G

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.52 for the option “no” in Figure 1 implies that 52% of poll respondents replied “no”; 0.48 for “yes” that 48% of the poll respondents replied “yes”.

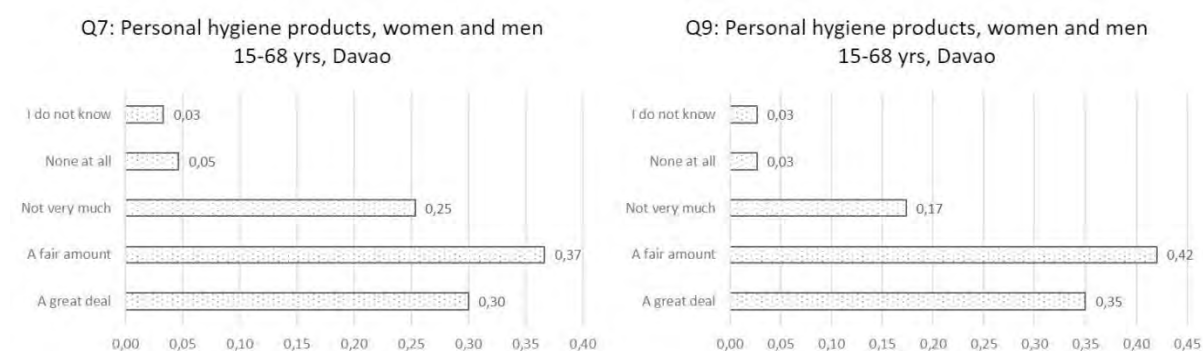
### Philippines



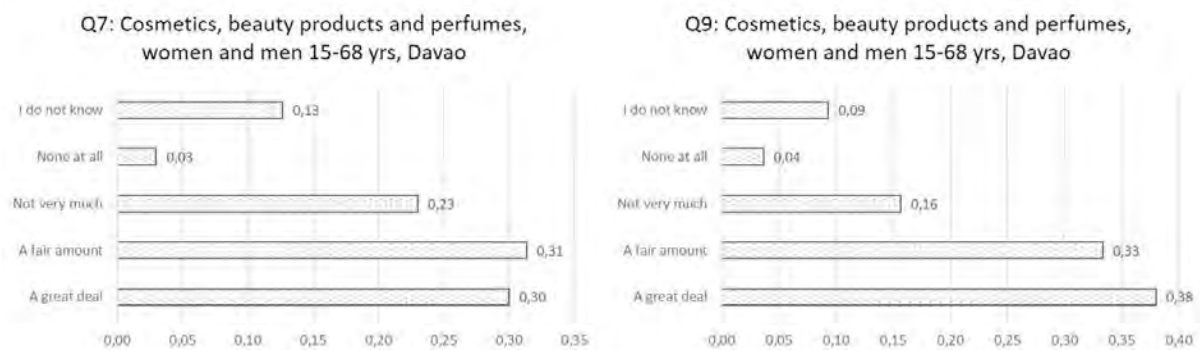
**Figure 1:** Share of poll participants with children or not (sample size: 300, Davao)



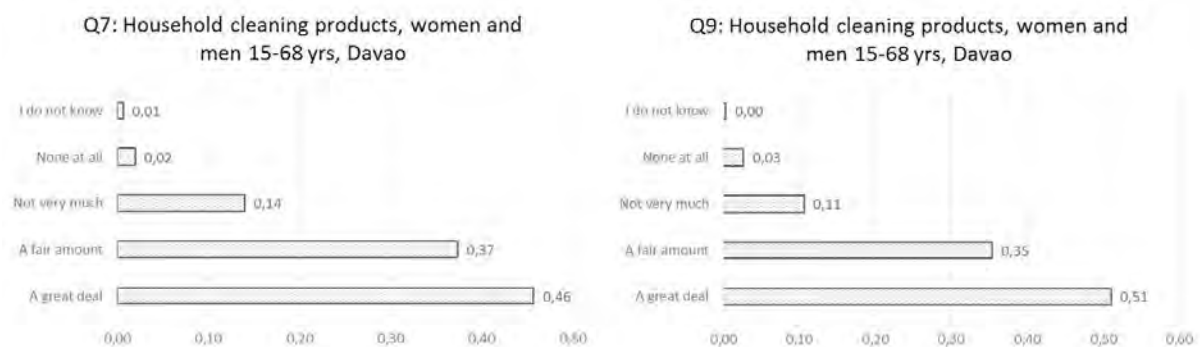
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Davao).



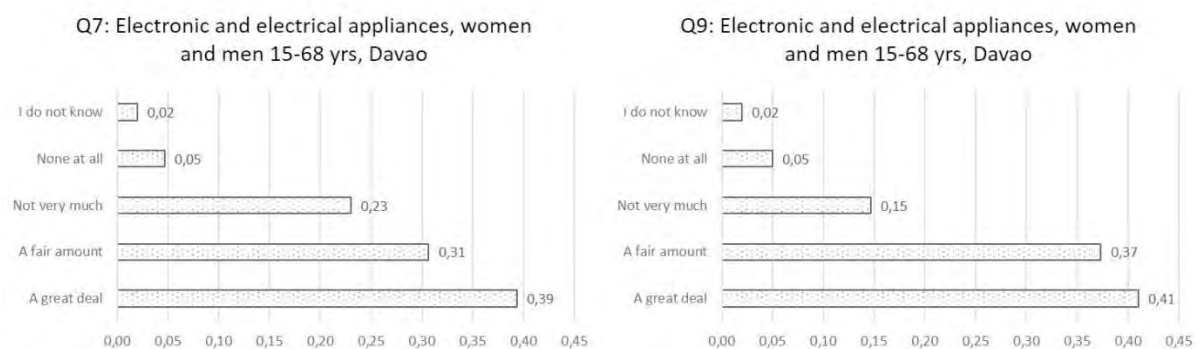
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Davao).



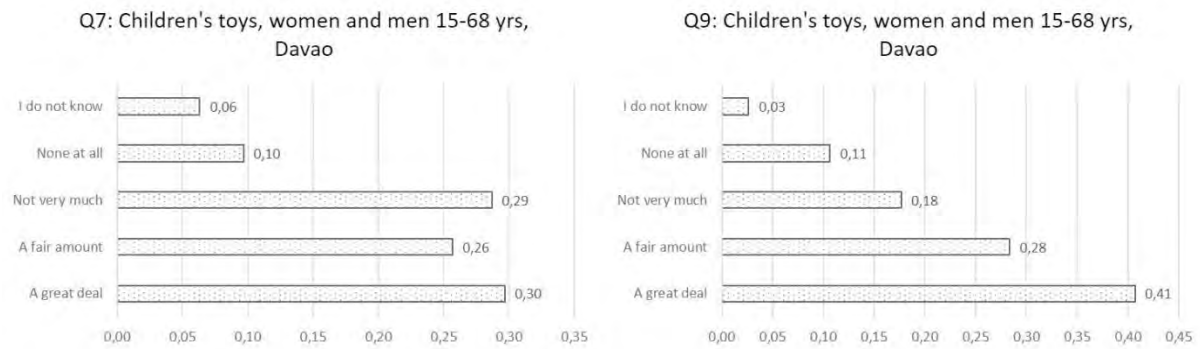
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 300, Davao).



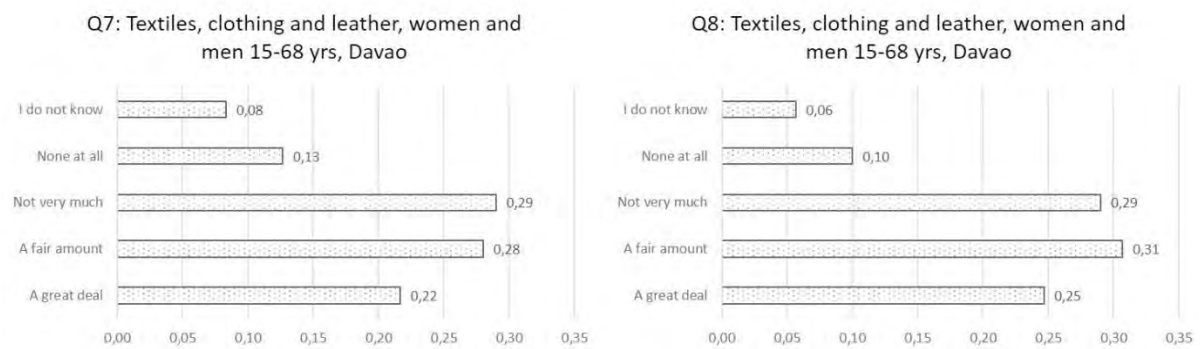
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, beauty products and perfumes, share of poll participants (right hand graph) (sample size: 300, Davao).



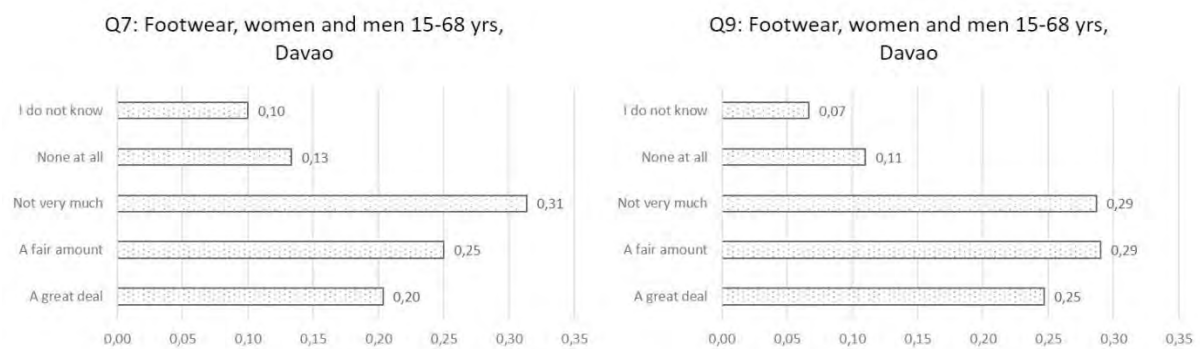
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Davao).



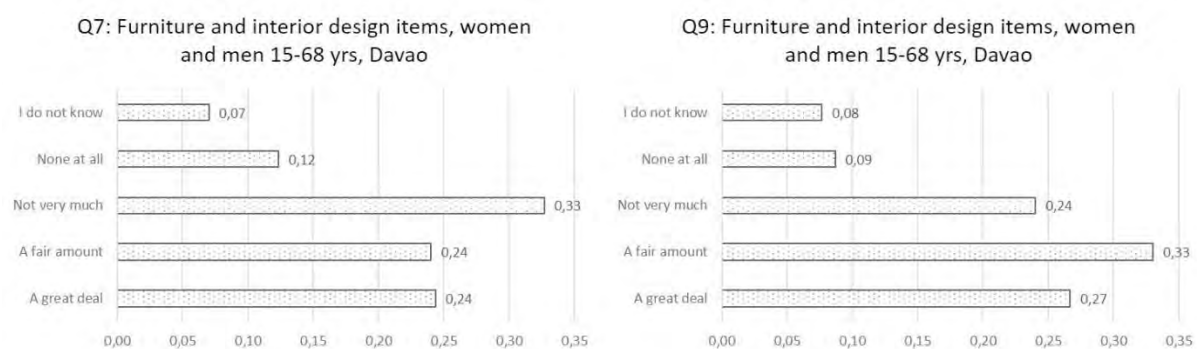
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Davao).



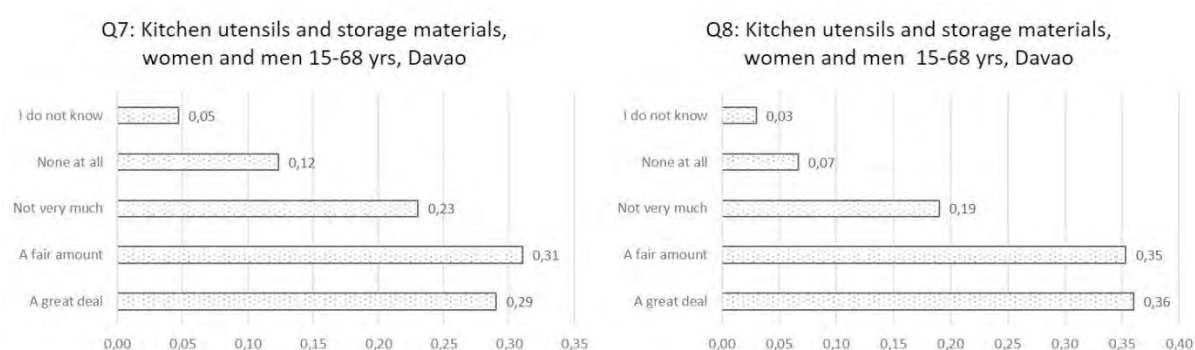
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Davao).



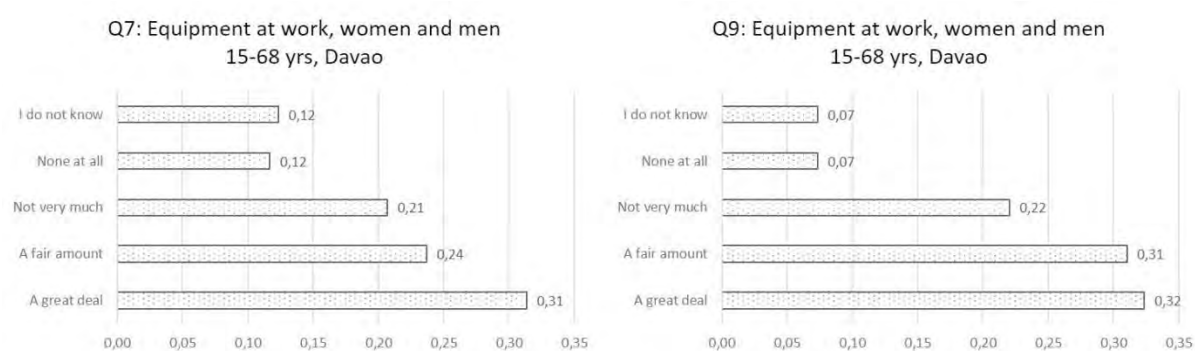
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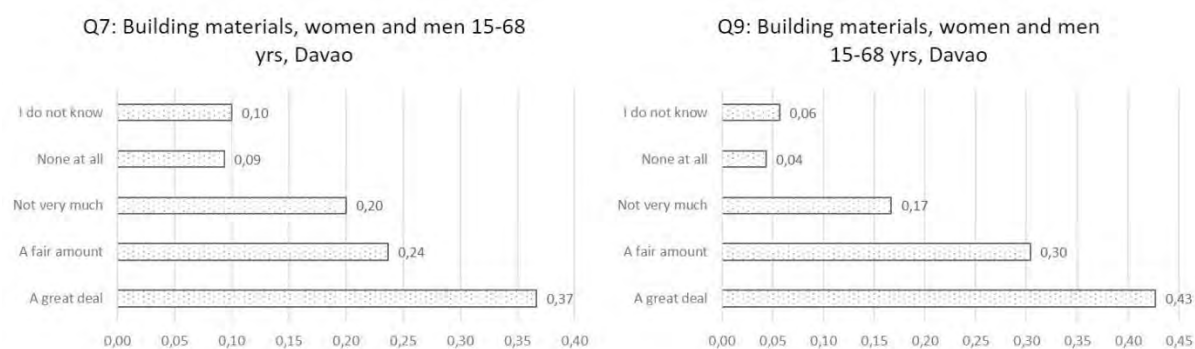
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Davao).



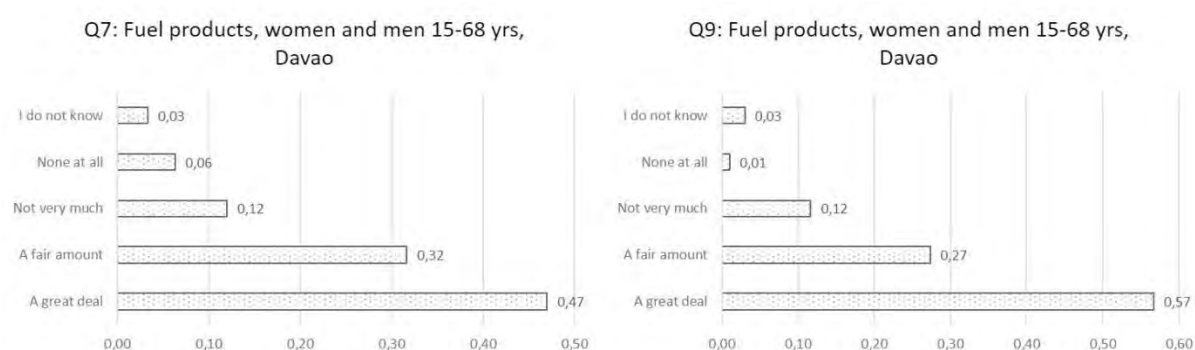
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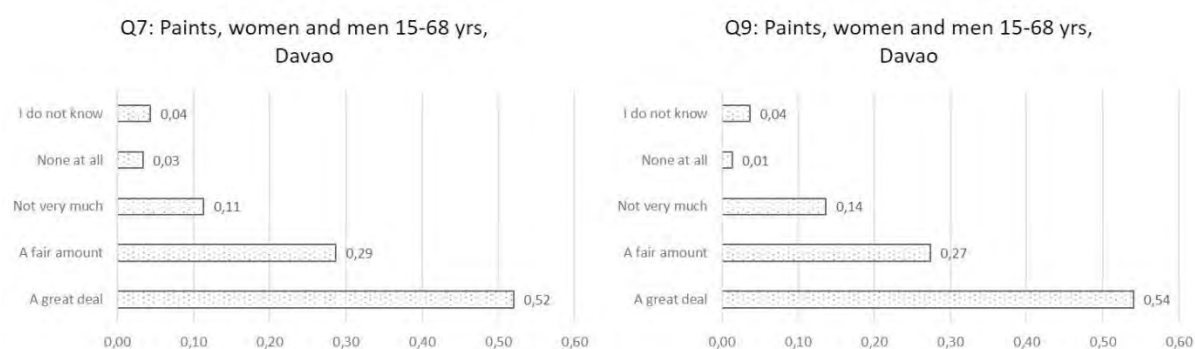
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Davao).



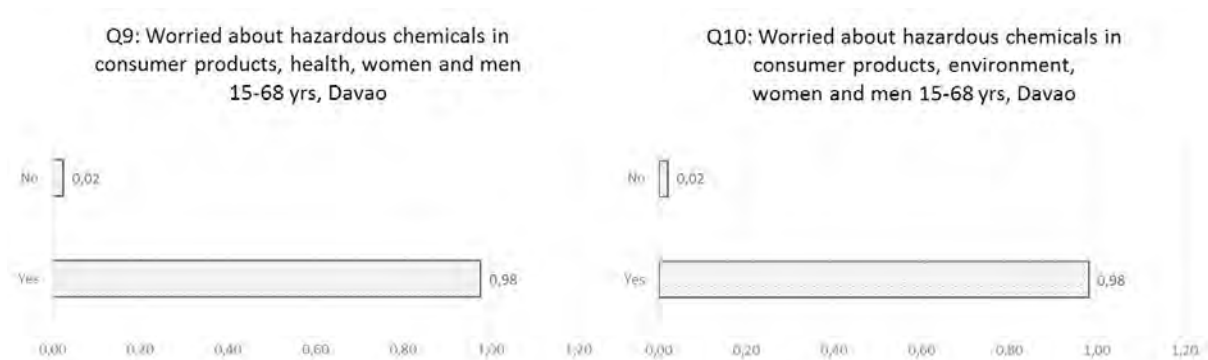
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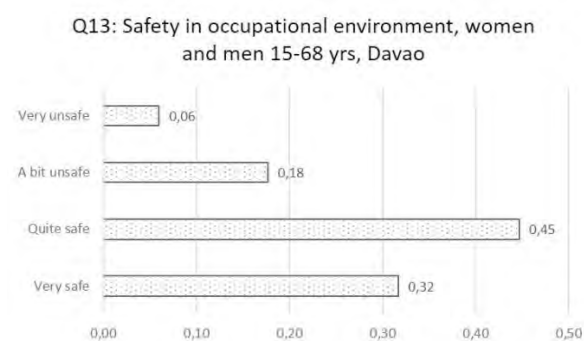
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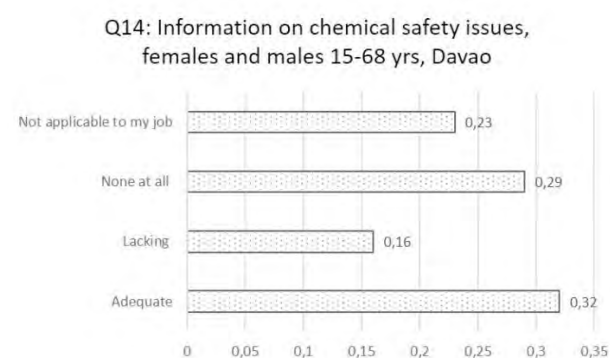
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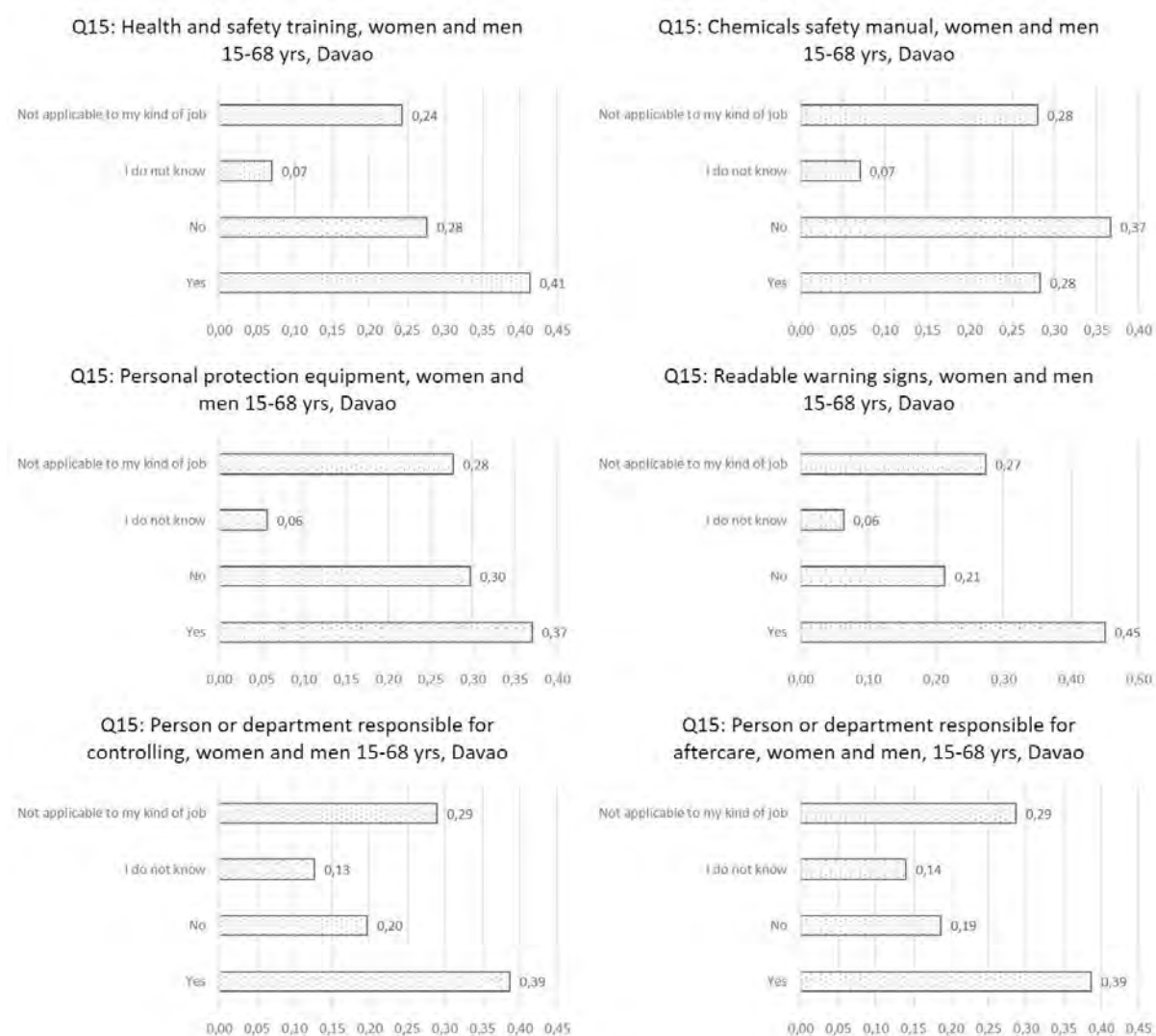
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Davao).



**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Davao).

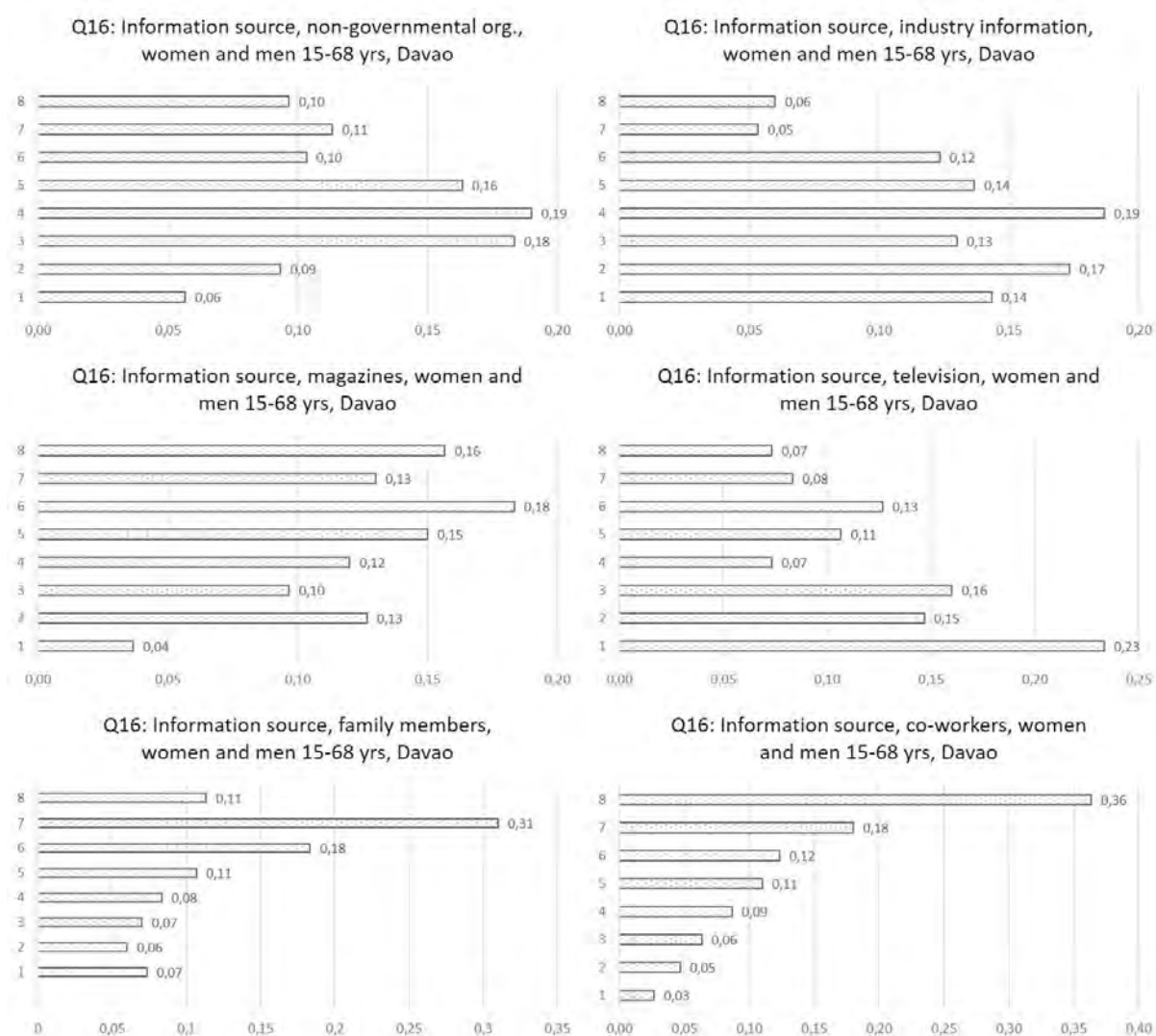


**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Davao).

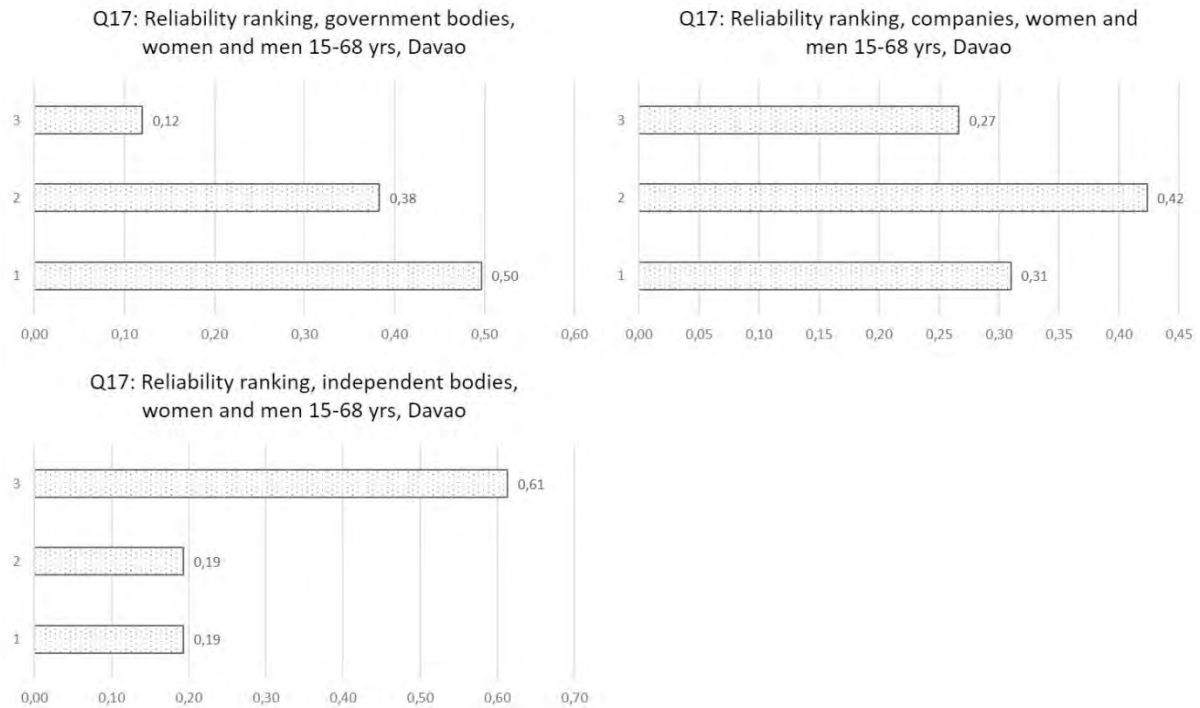


**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Davao).

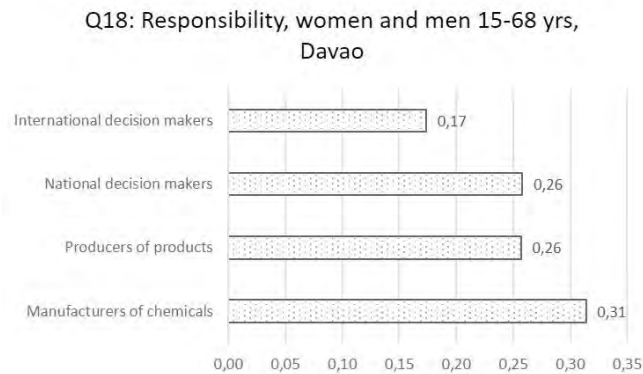




**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Davao). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



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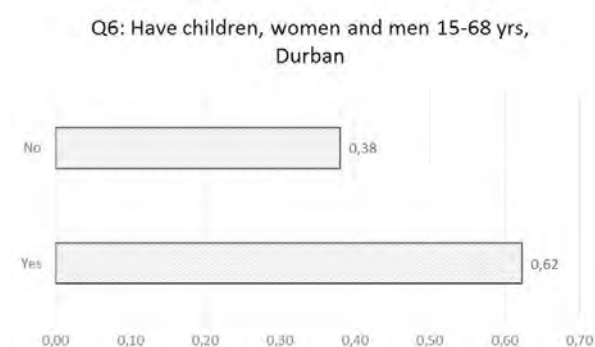


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Davao). The poll participants could pick several of the available choices.

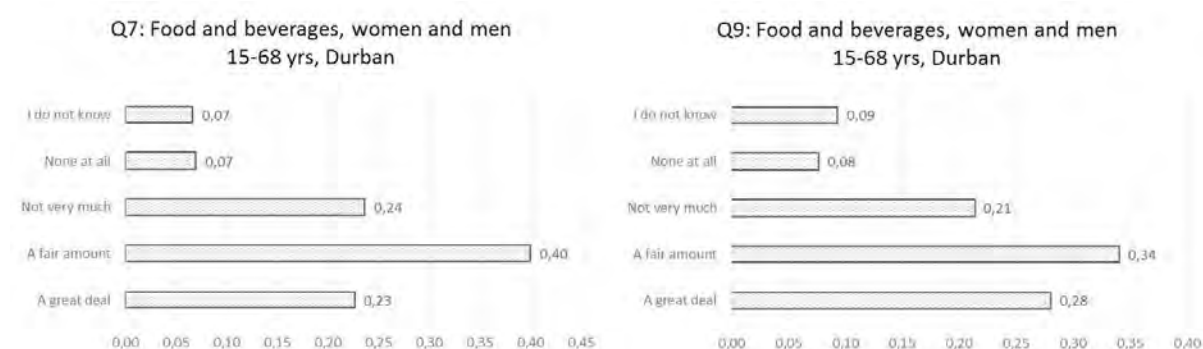
## Appendix H

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.38 for the option “no” in Figure 1 implies that 38% of the poll respondents replied “no”; 0.62 that 62% of the poll respondents replied “yes”.

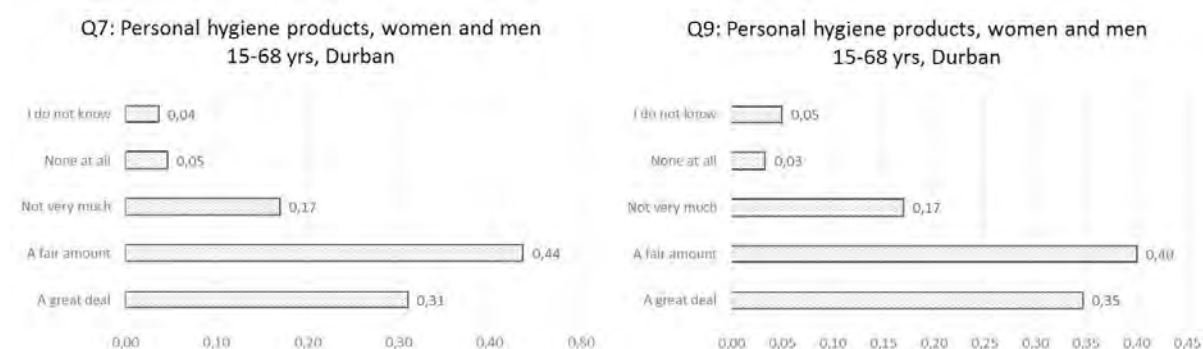
### South Africa



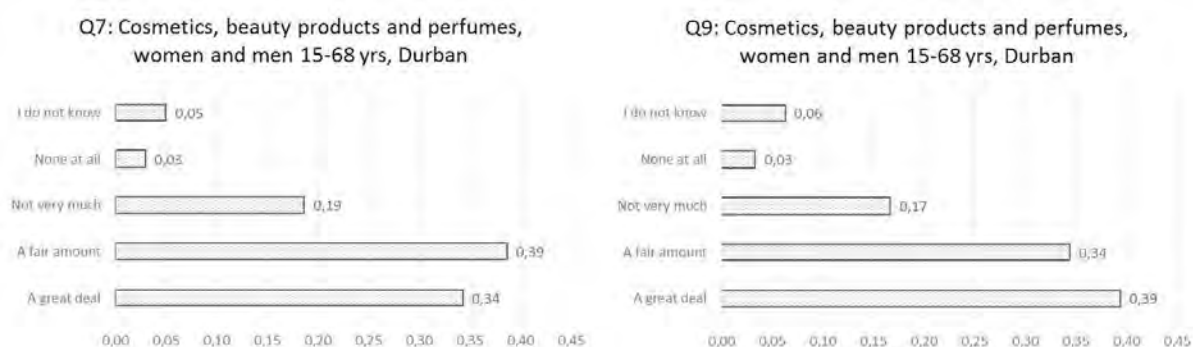
**Figure 1:** Share of poll participants with children or not (sample size: 300, Durban)



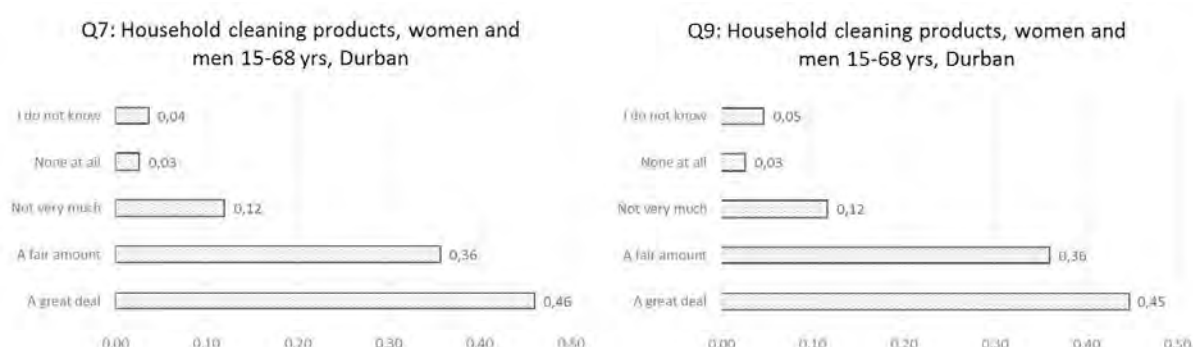
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Durban).



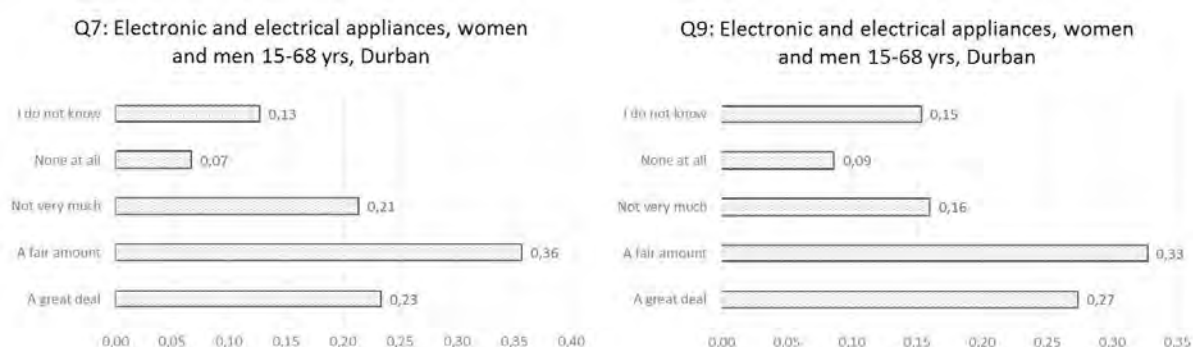
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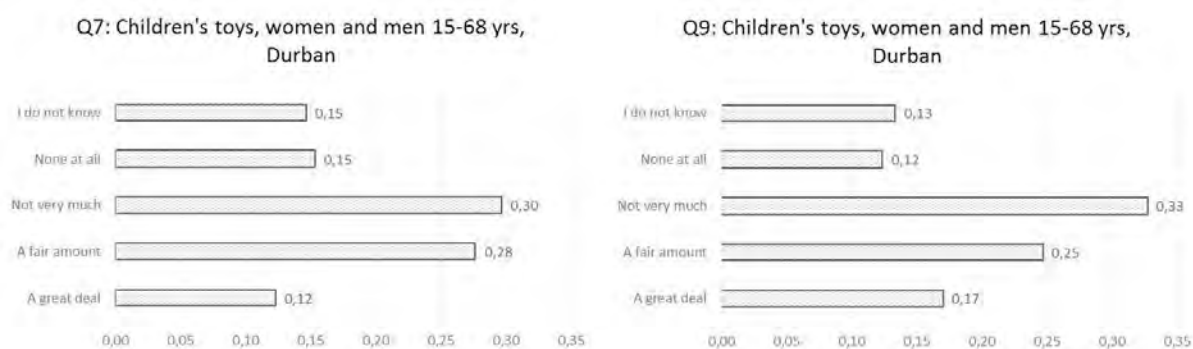
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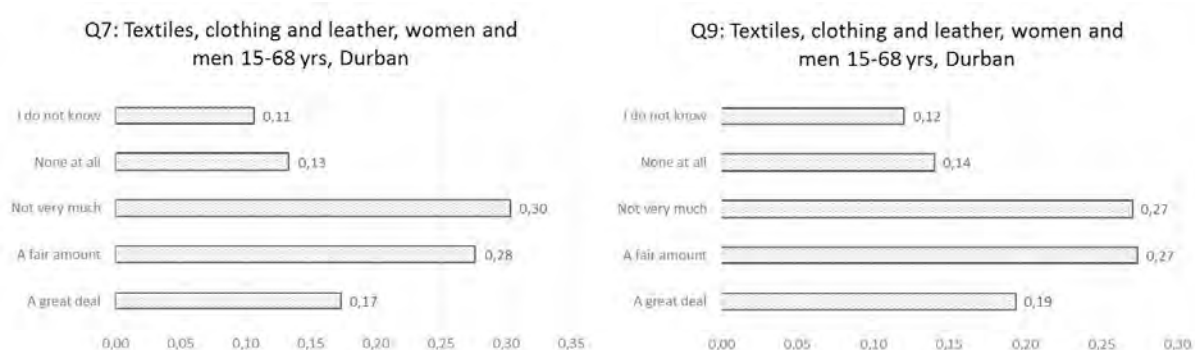
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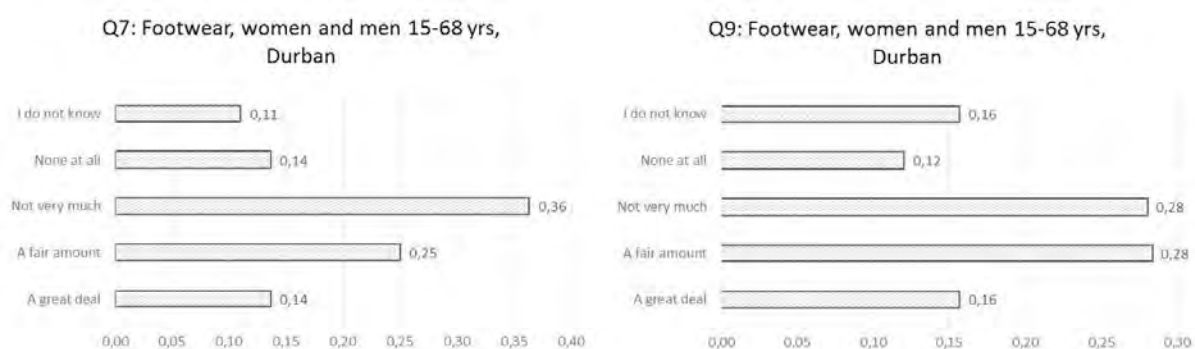
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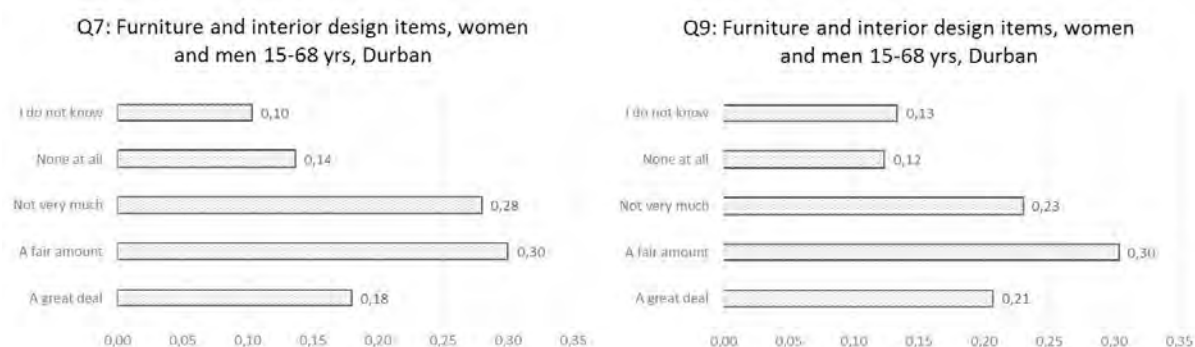
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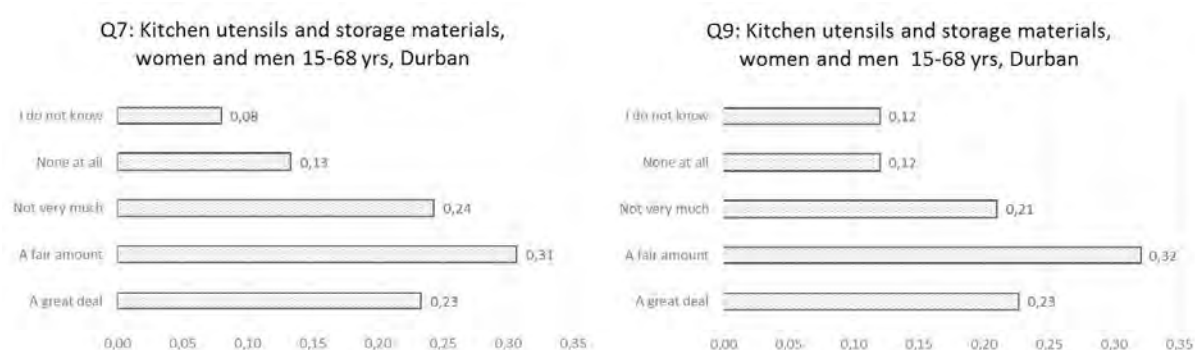
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Durban).



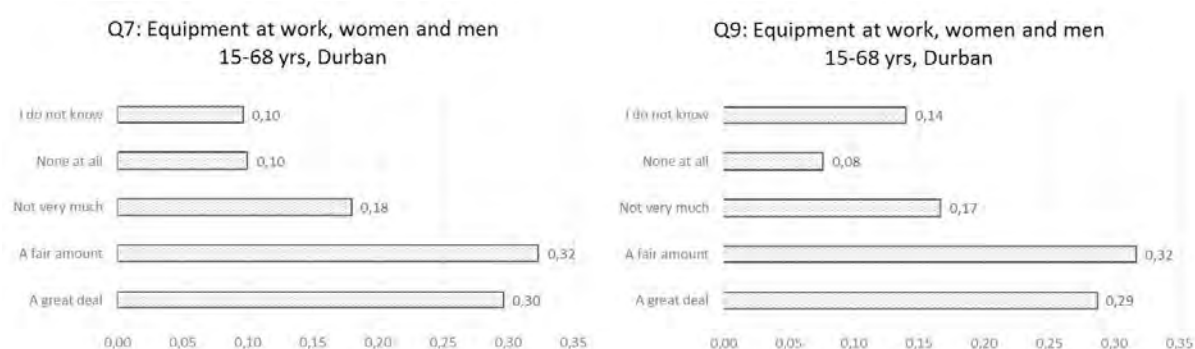
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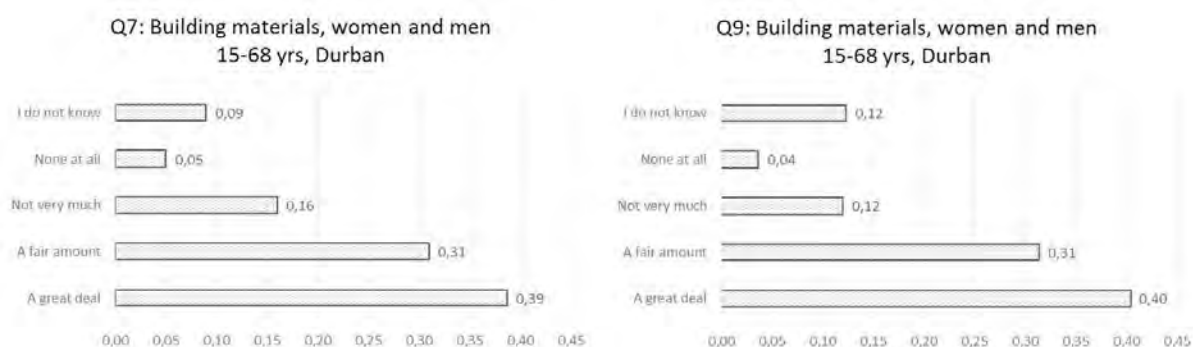
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Durban).



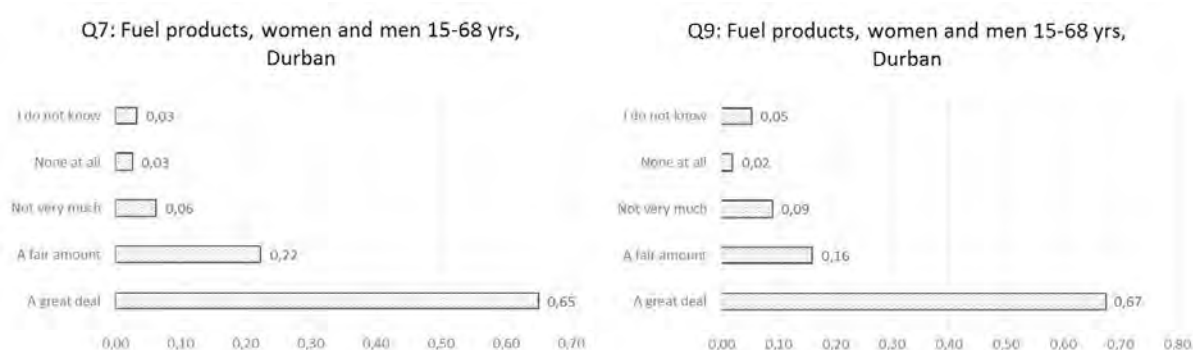
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Durban).



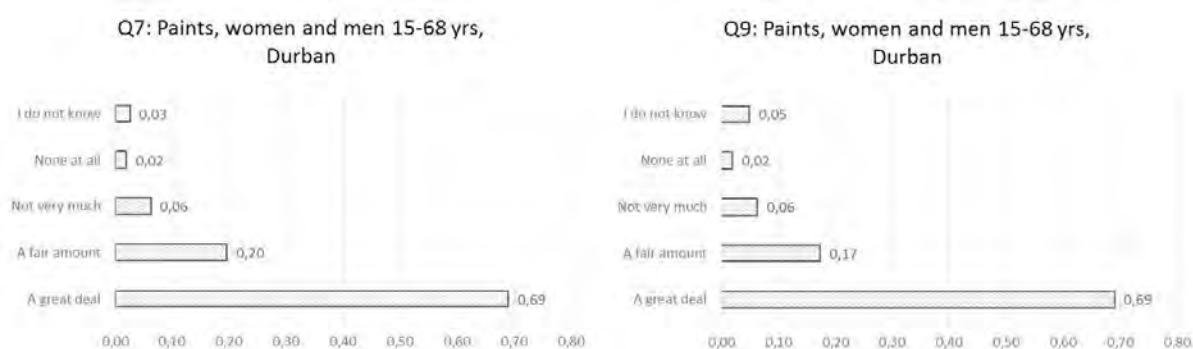
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Durban).



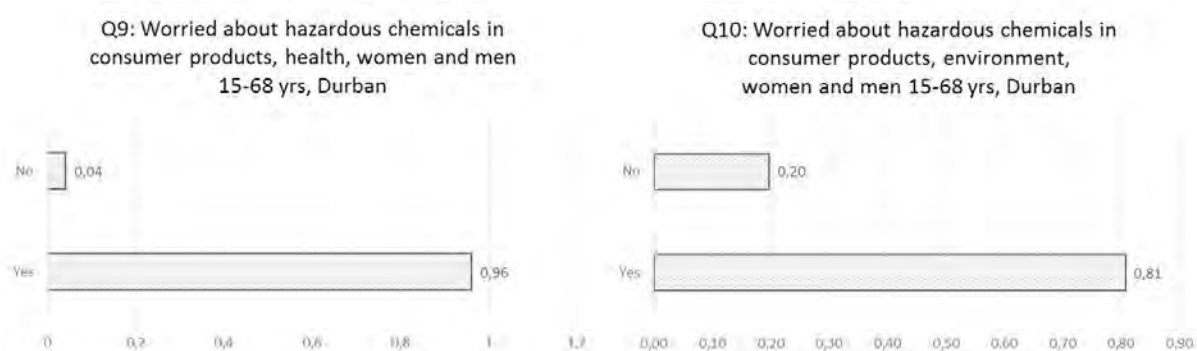
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, Durban).



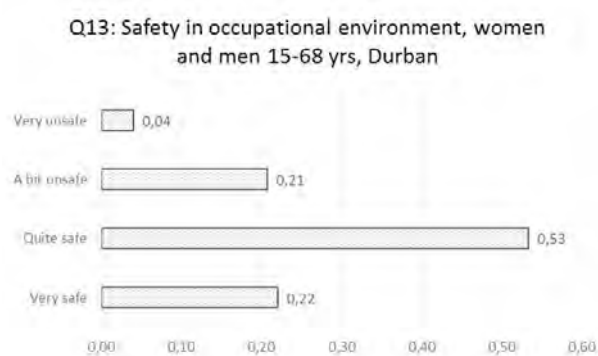
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, Durban).



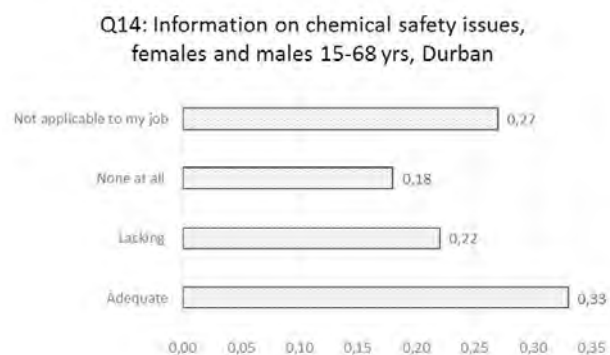
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Durban).



**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Durban).

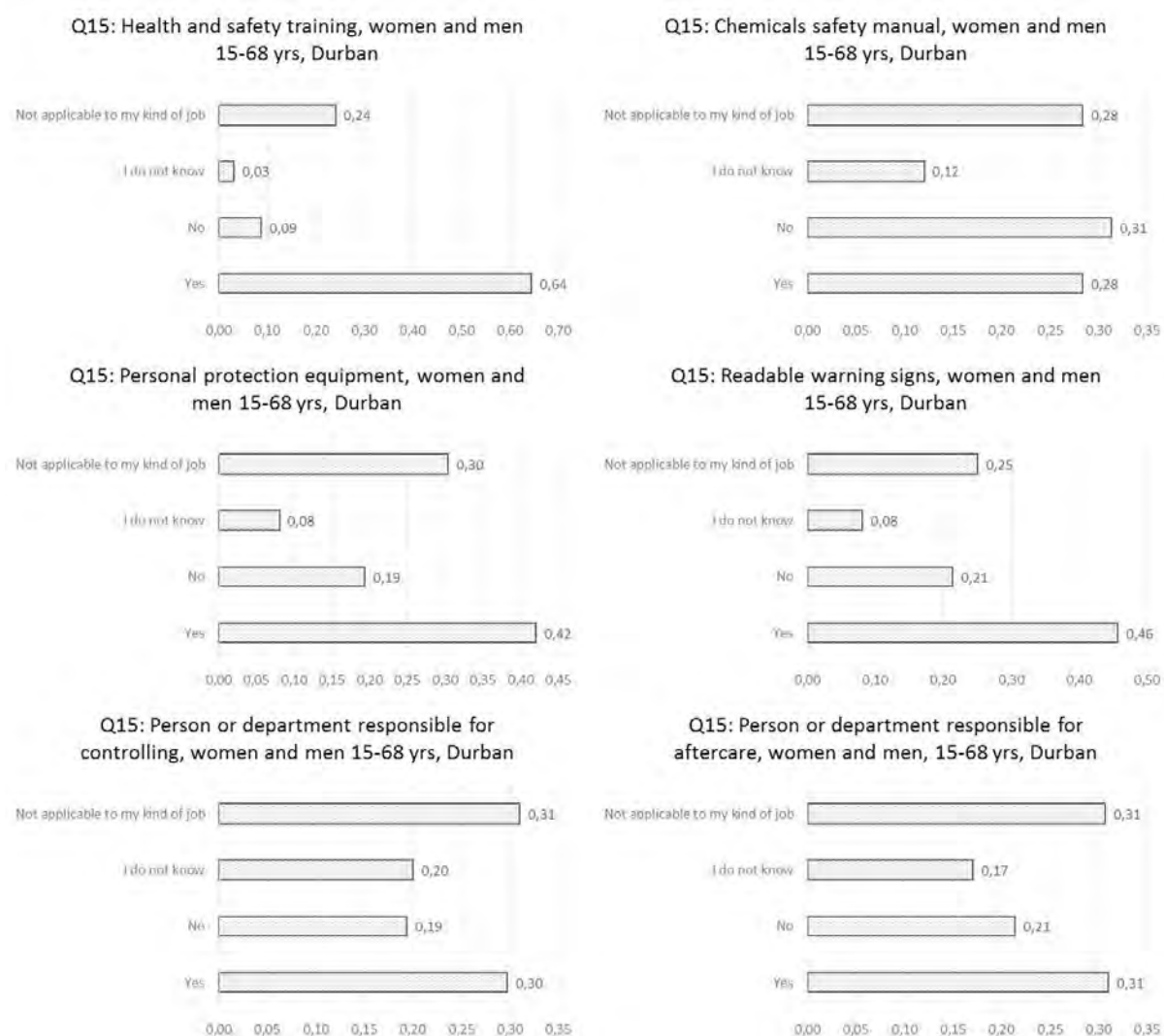


**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Durban).

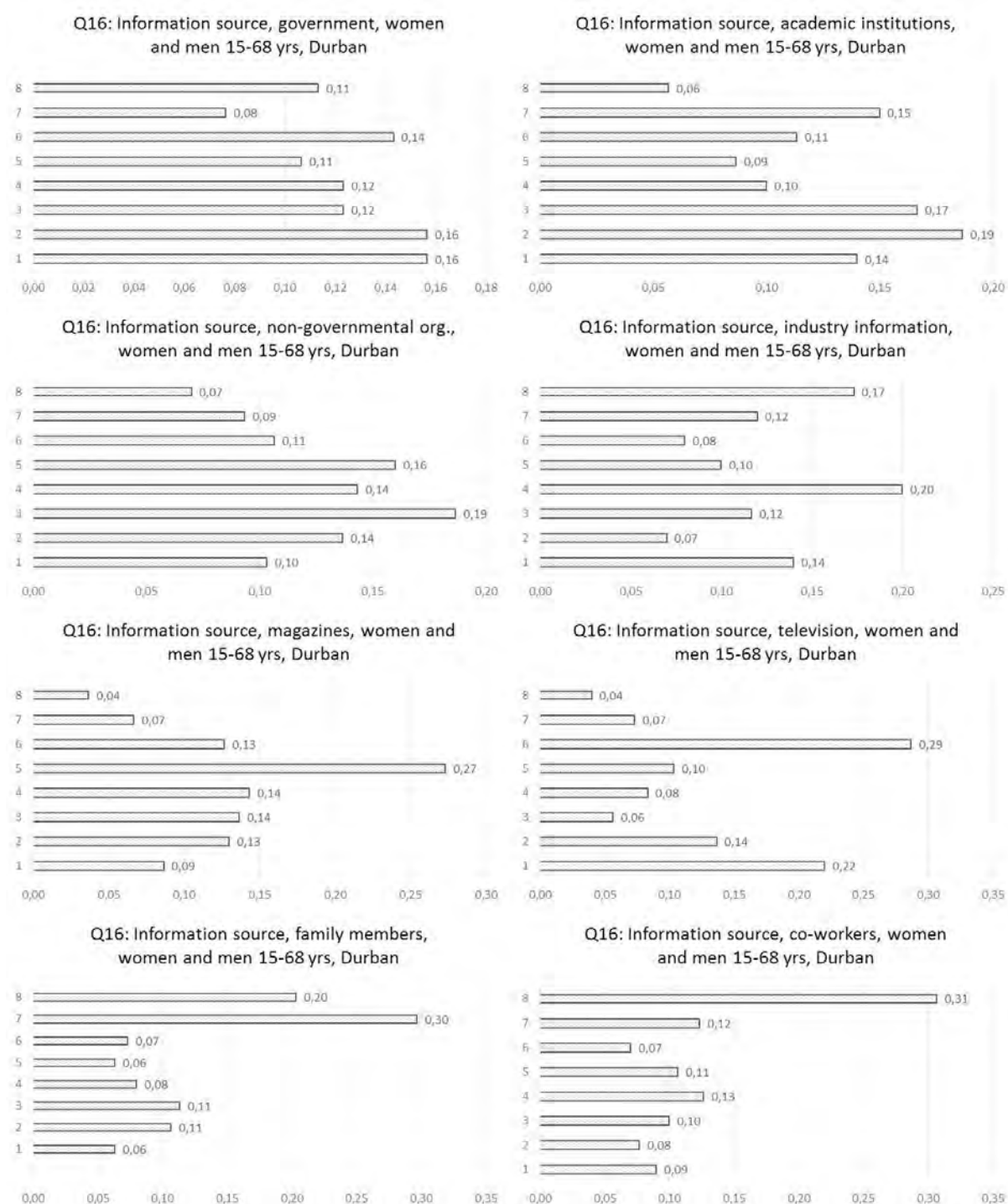


**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Durban).

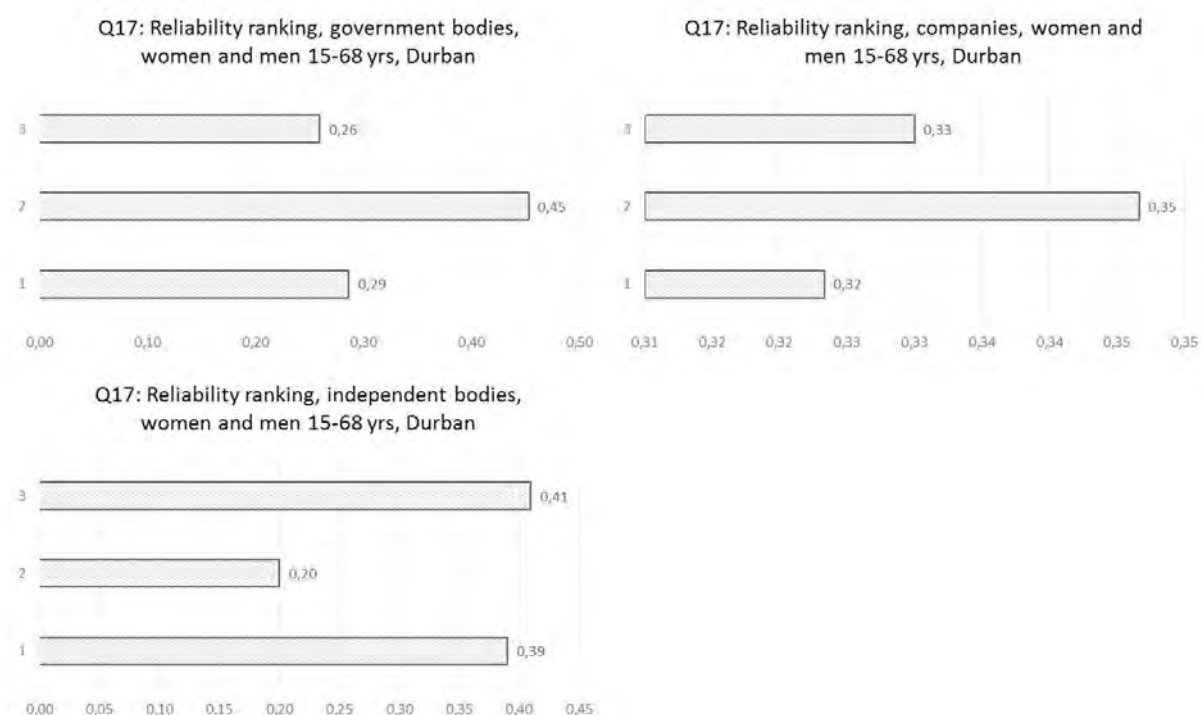




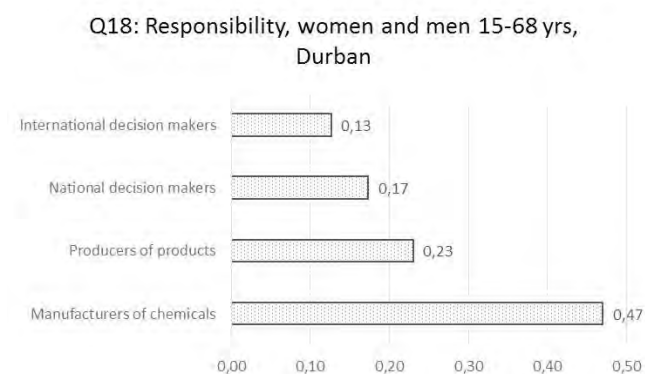
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Durban).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Durban). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, Durban). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

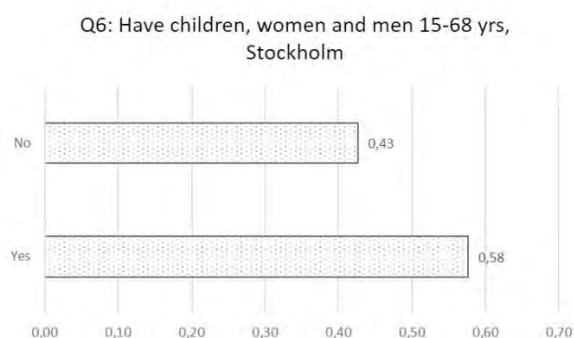


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Durban). The poll participants could pick several of the available choices.

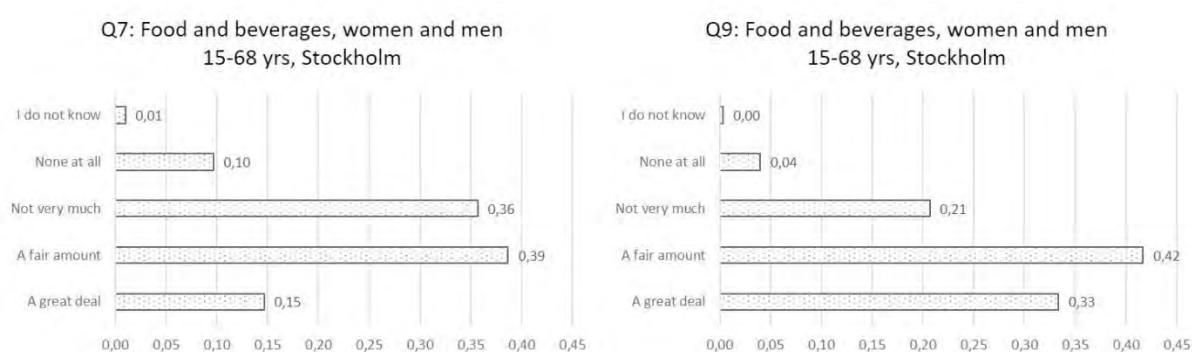
## Appendix I

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.43 for the option “no” in Figure 1 implies that 43% of the poll respondents replied “no”; 0.58 that 58% of the poll respondents replied “yes”.

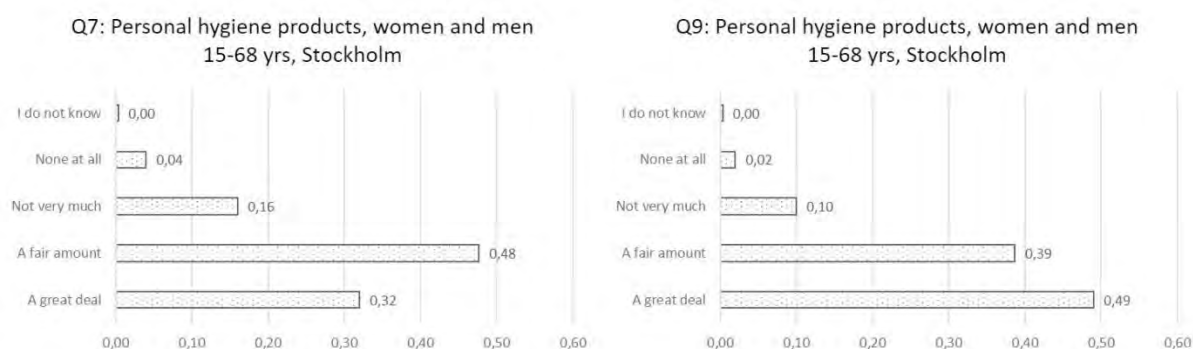
### Sweden



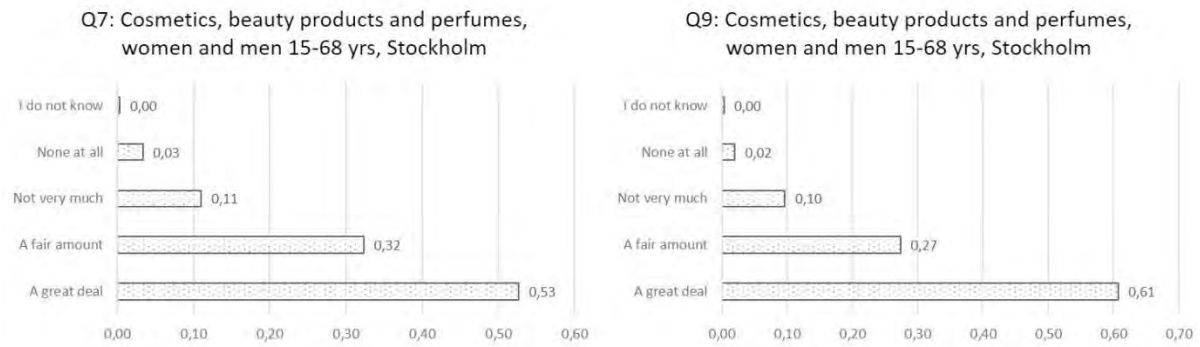
**Figure 1:** Share of poll participants with children or not (sample size: 300, Stockholm)



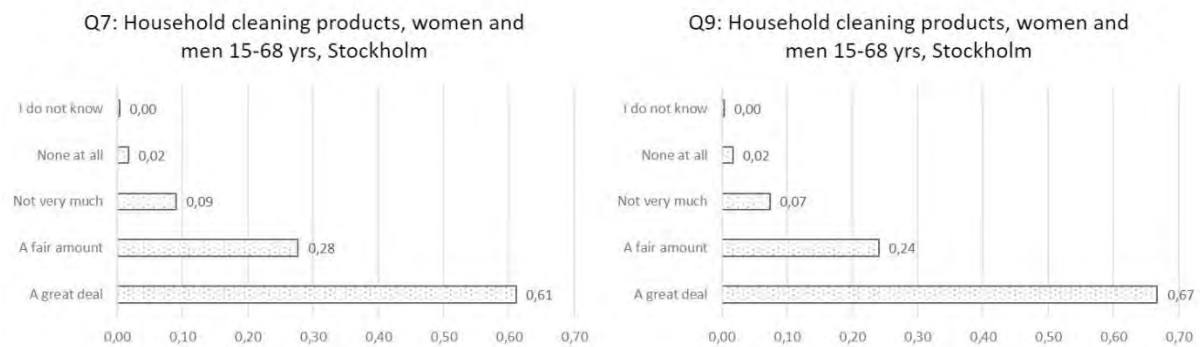
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Stockholm).



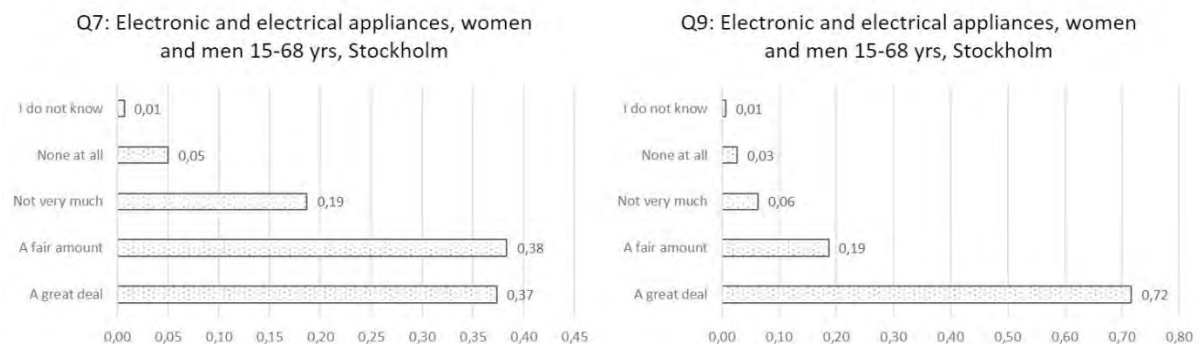
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Stockholm).



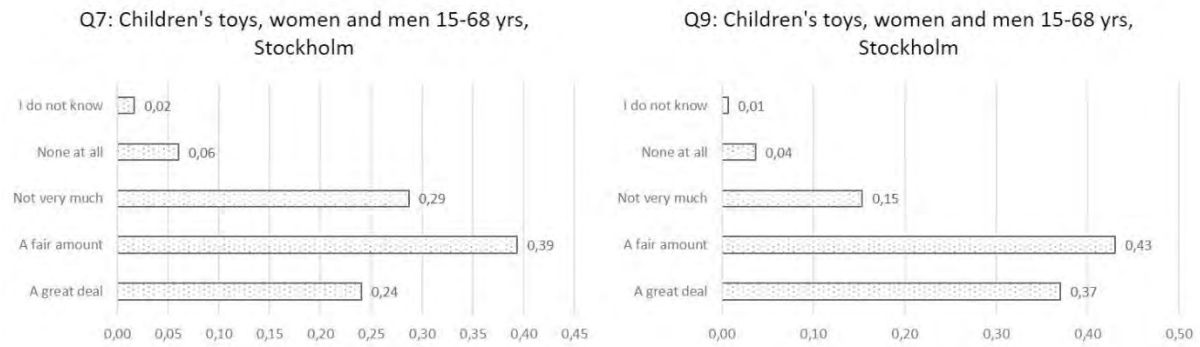
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 300, Stockholm).



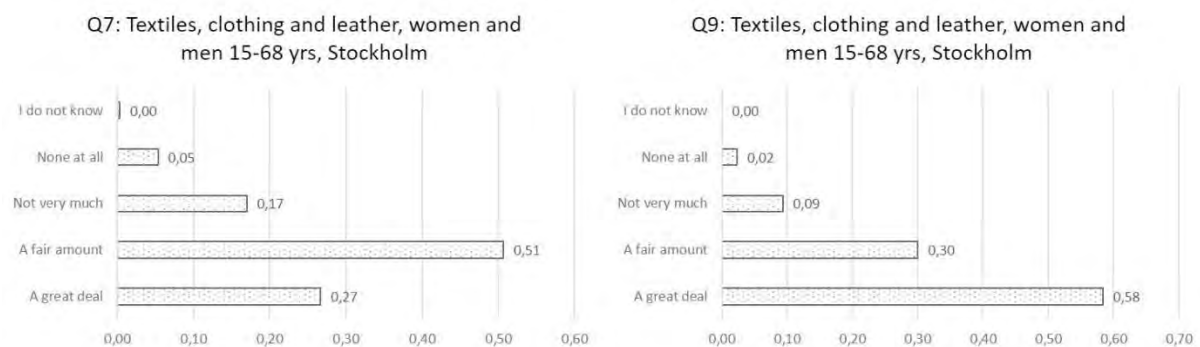
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, share of poll participants (right hand graph) (sample size: 300, Stockholm).



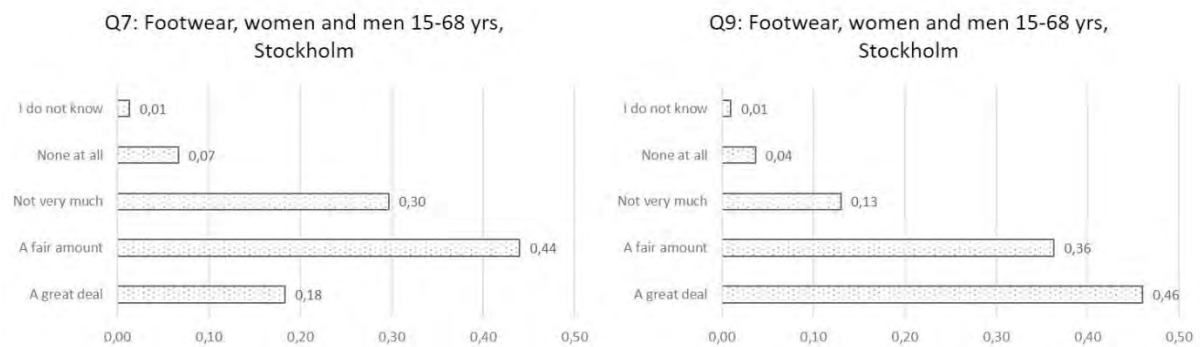
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Stockholm).



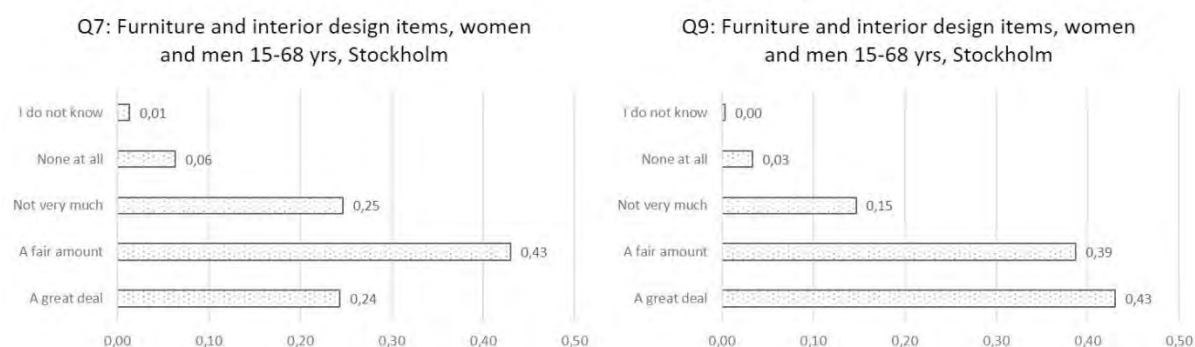
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Stockholm).



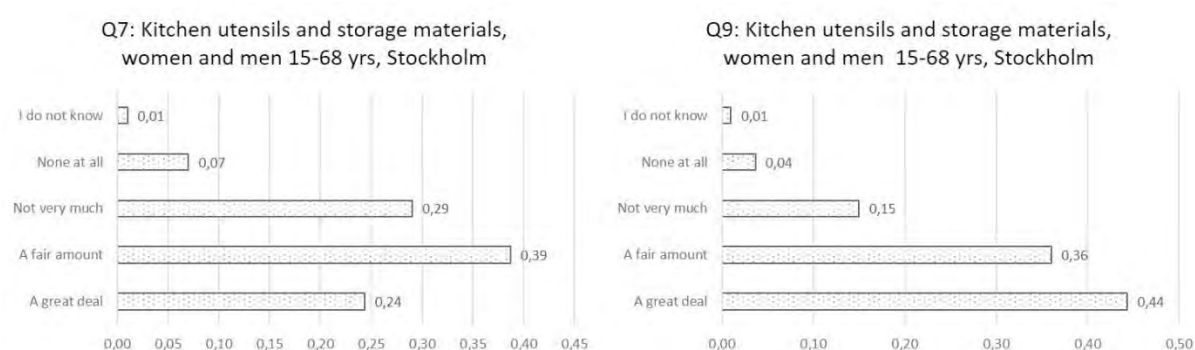
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Stockholm).



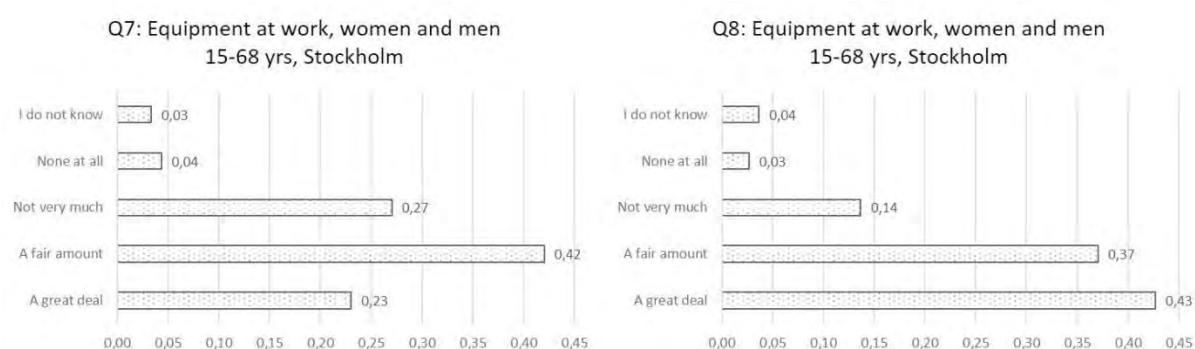
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 300, Stockholm).



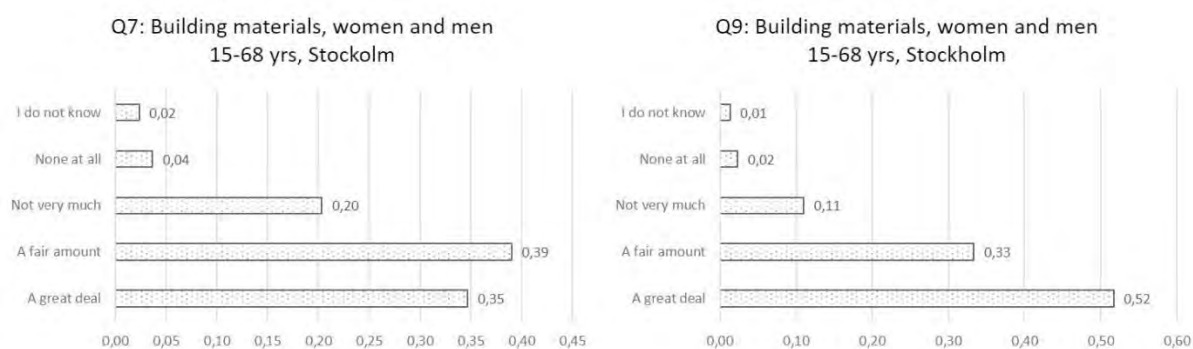
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Stockholm).



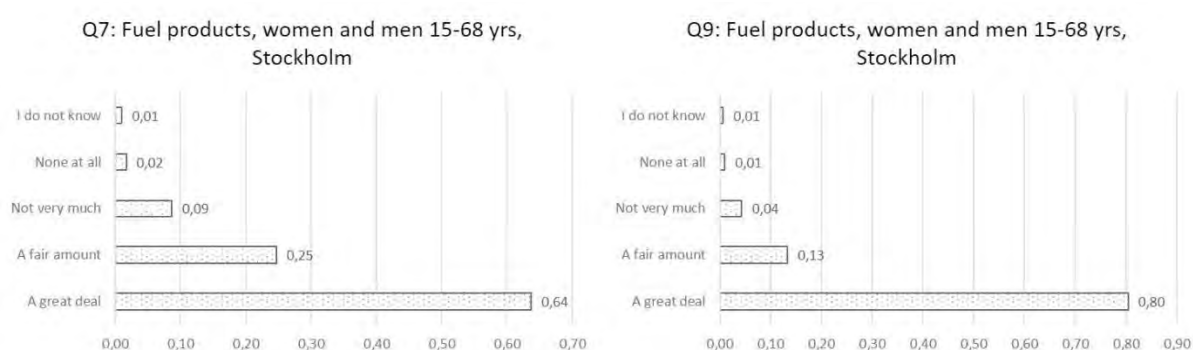
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Stockholm).



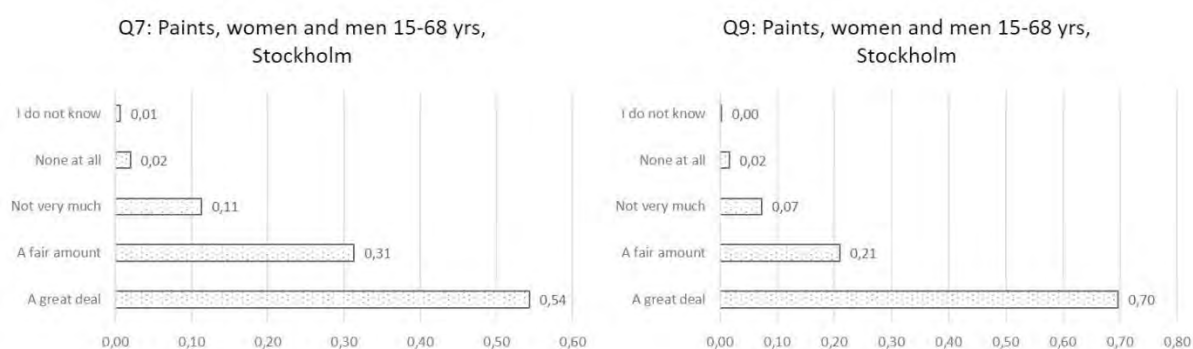
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Stockholm).



**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, Stockholm).

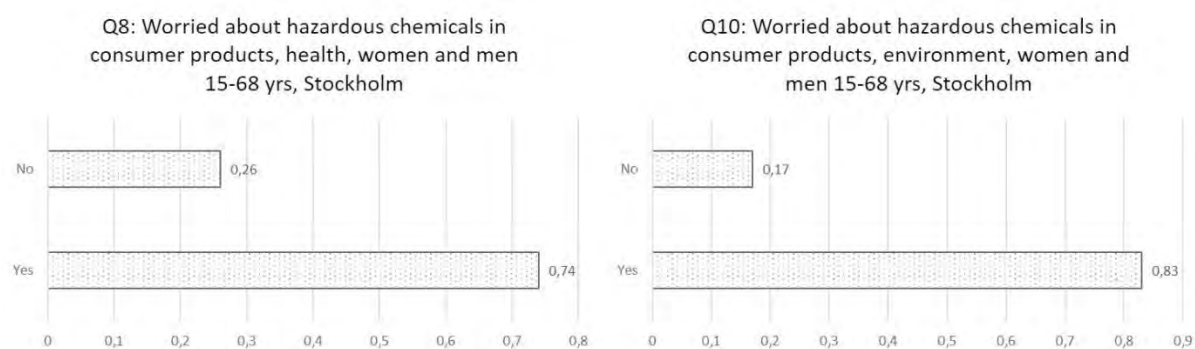


**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, Stockholm).

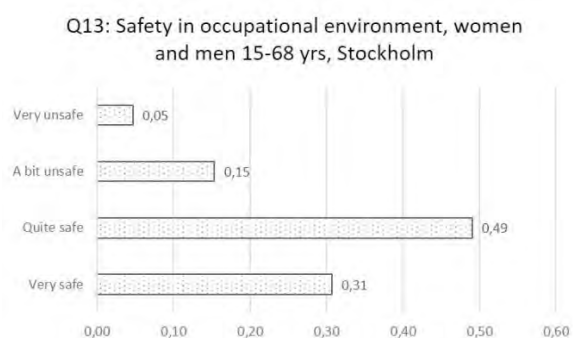


**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Stockholm).

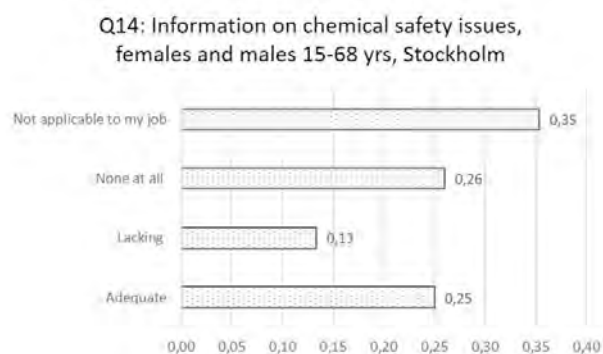




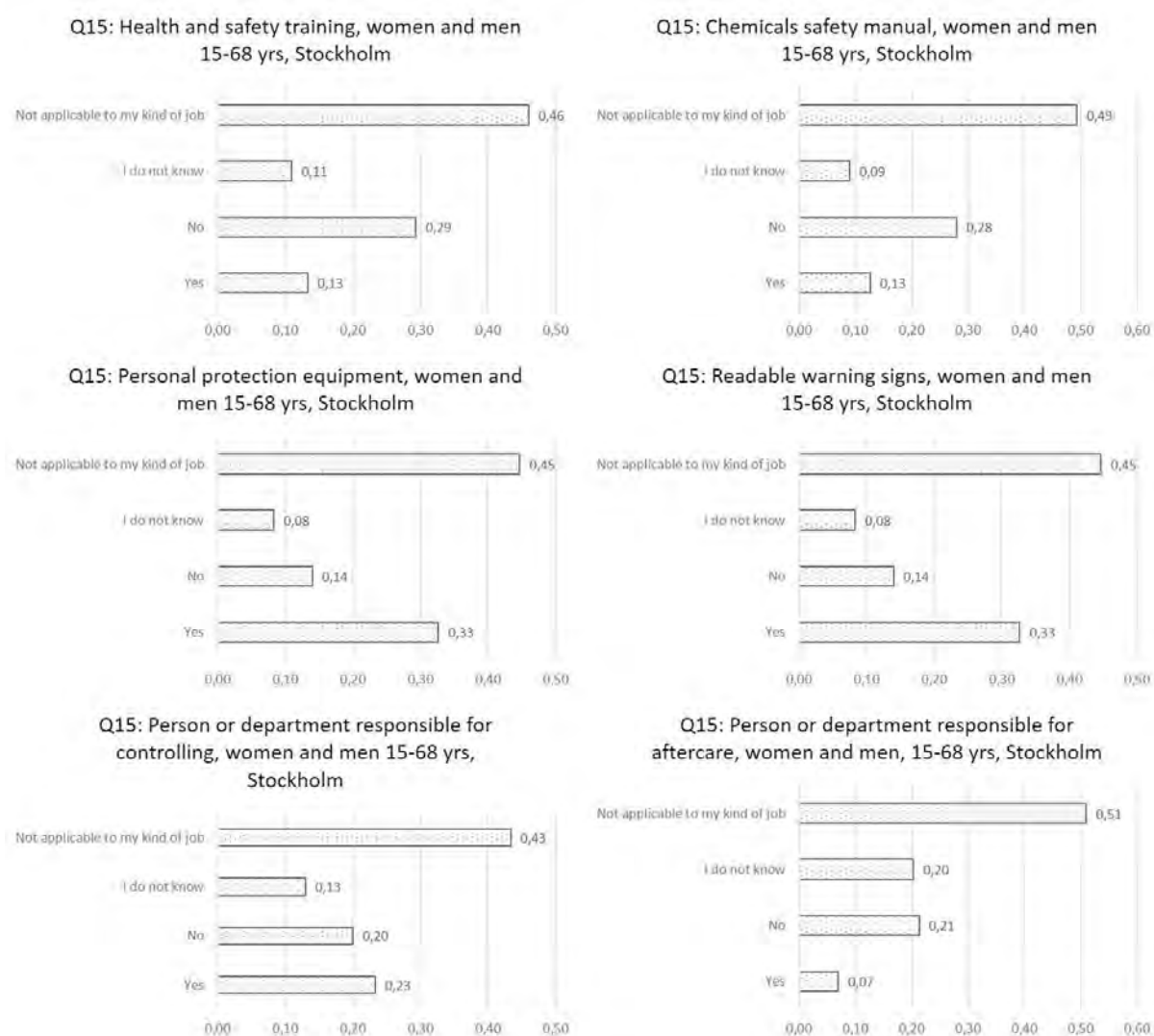
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Stockholm).



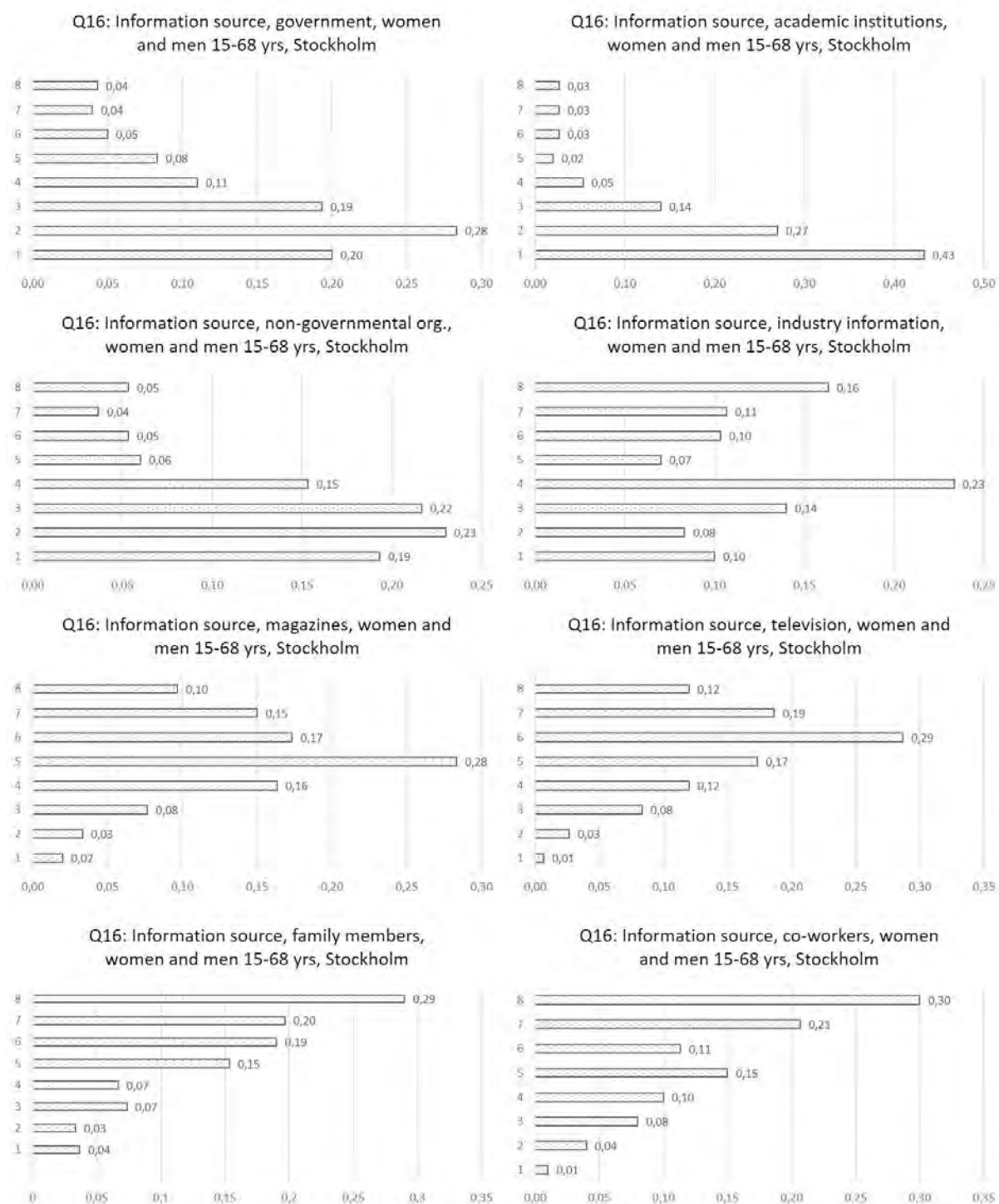
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Stockholm).



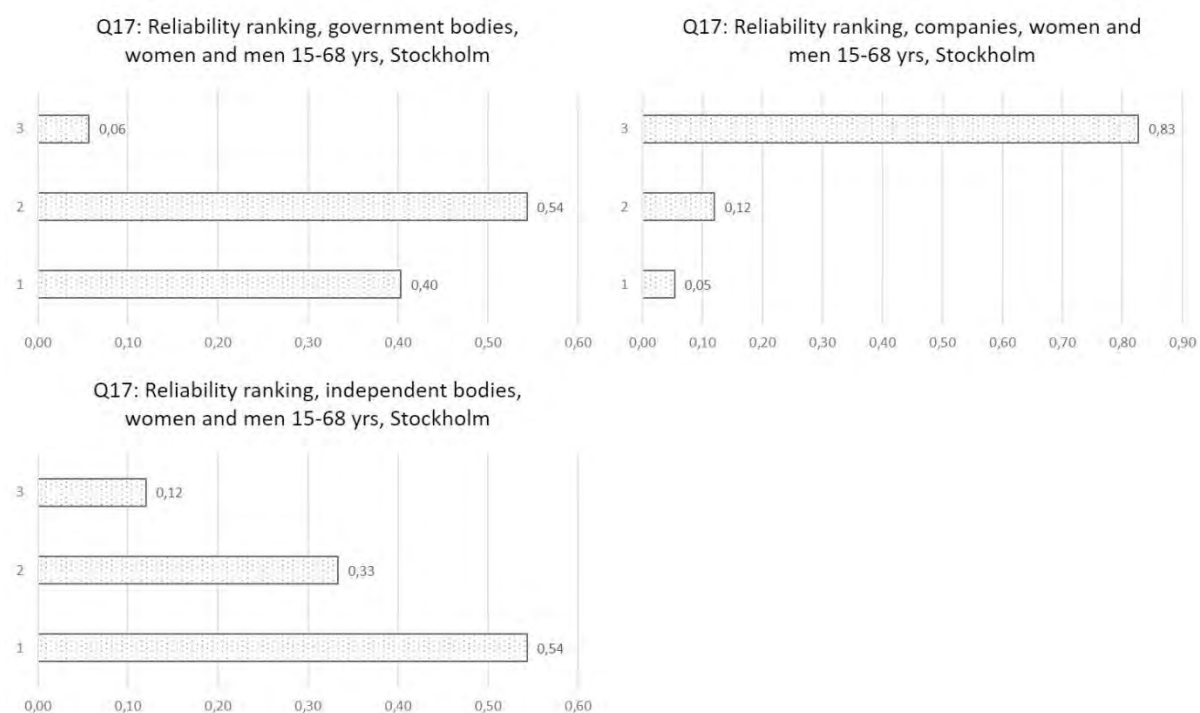
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Stockholm).



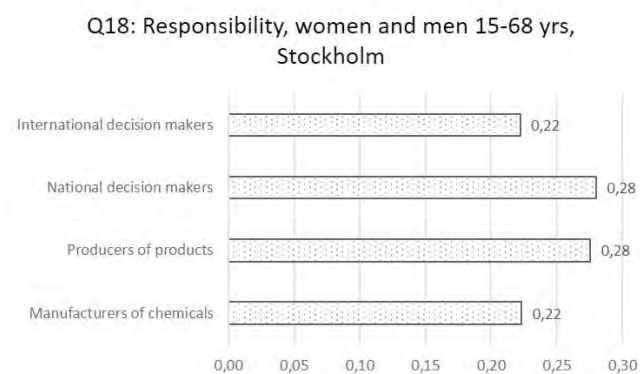
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Stockholm).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Stockholm). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



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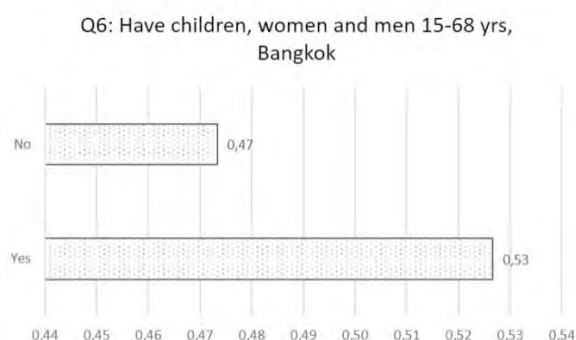


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Stockholm). The poll participants could pick several of the available choices.

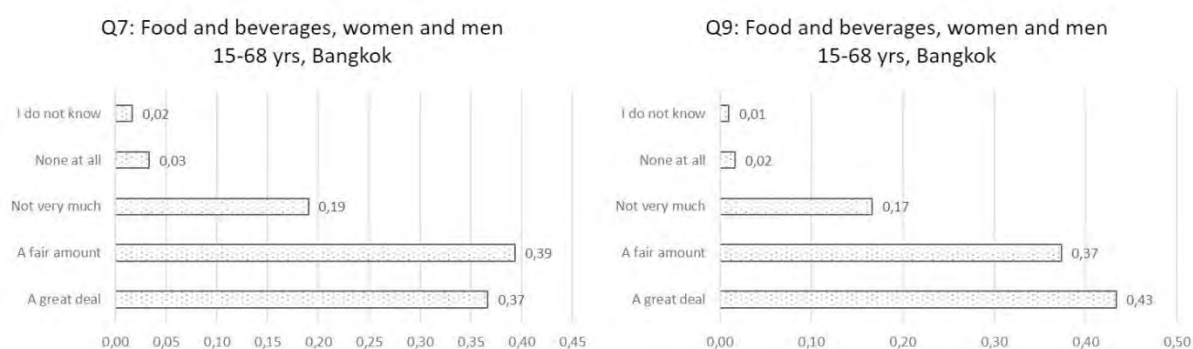
## Appendix J

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.47 for the option “no” in Figure 1 implies that 47% of the poll respondents replied “no”; 0.53 that 53% of the poll respondents replied “yes”.

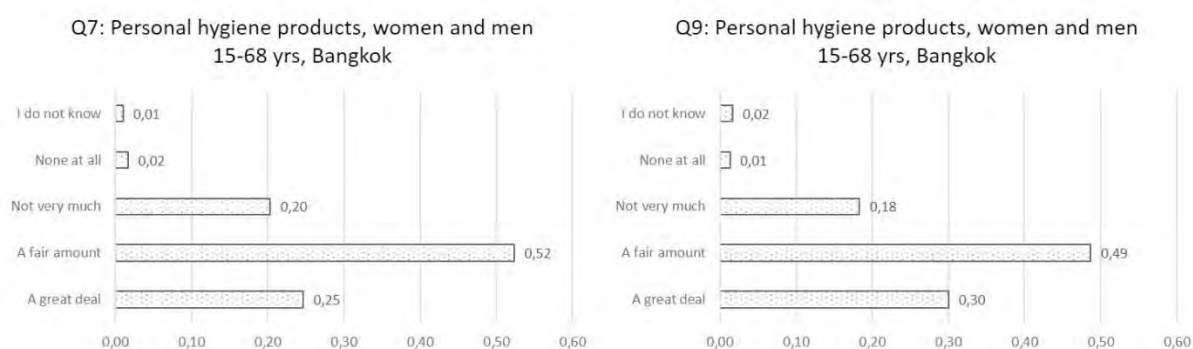
### Thailand



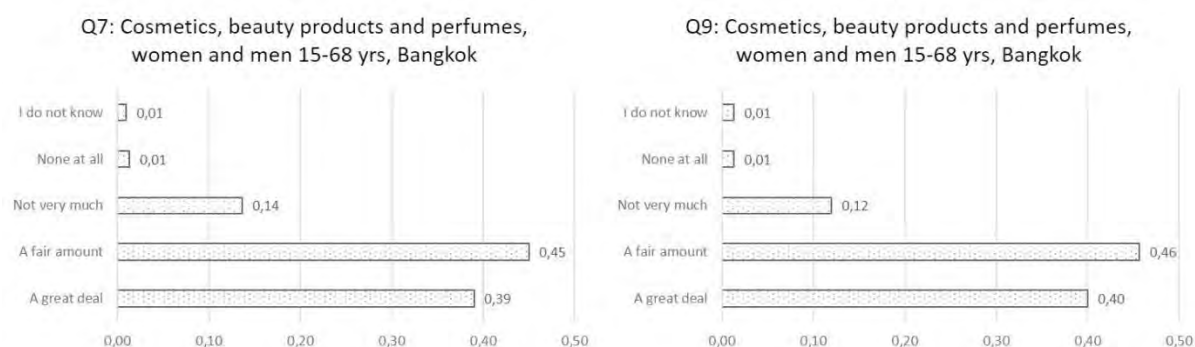
**Figure 1:** Share of poll participants with children or not (sample size: 300, Bangkok)



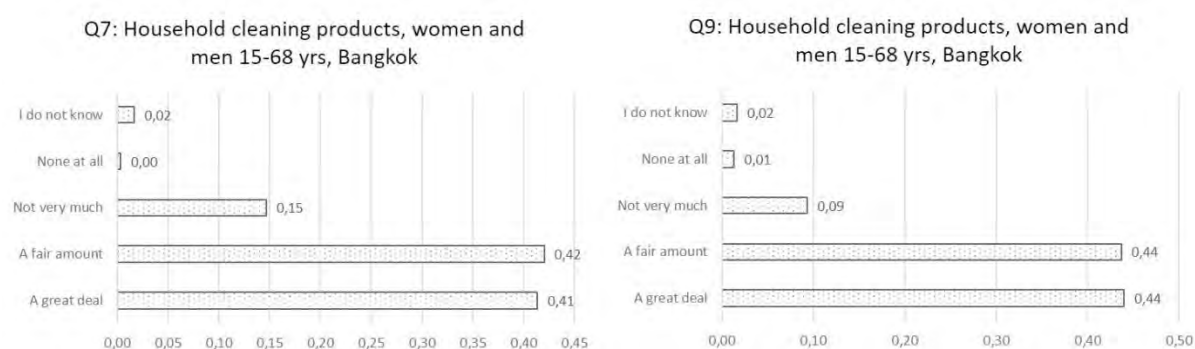
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Bangkok).



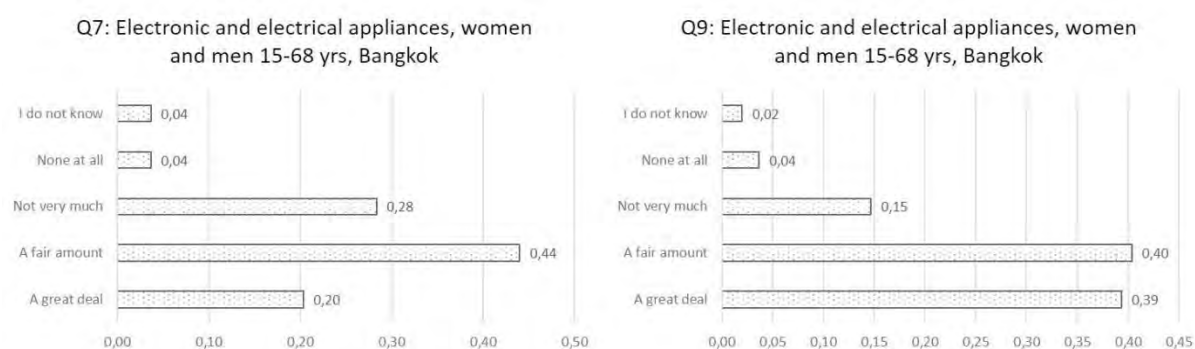
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Bangkok).



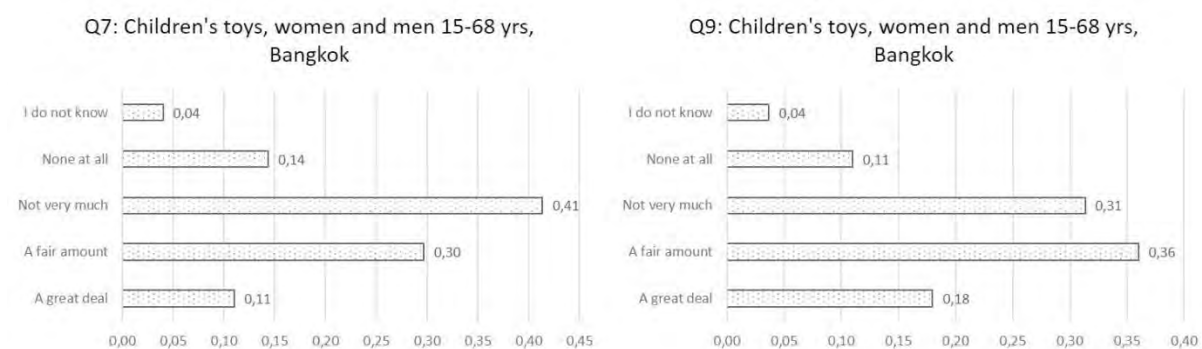
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 300, Bangkok).



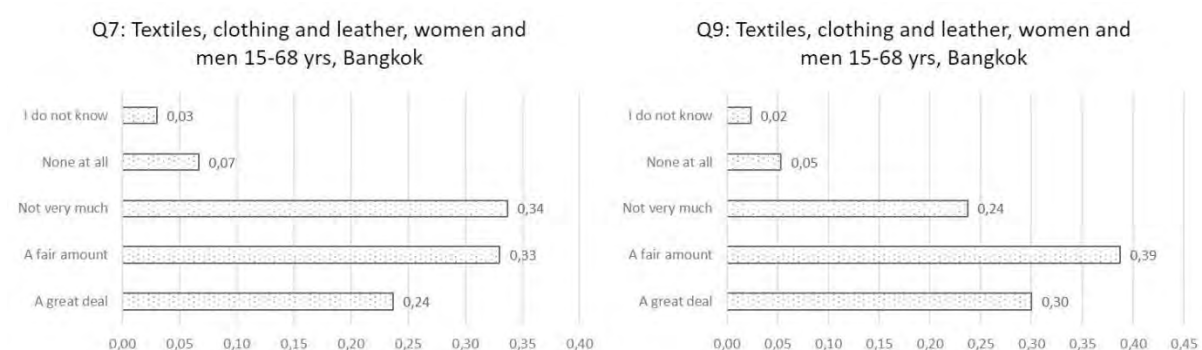
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, beauty products and perfumes, share of poll participants (right hand graph) (sample size: 300, Bangkok).



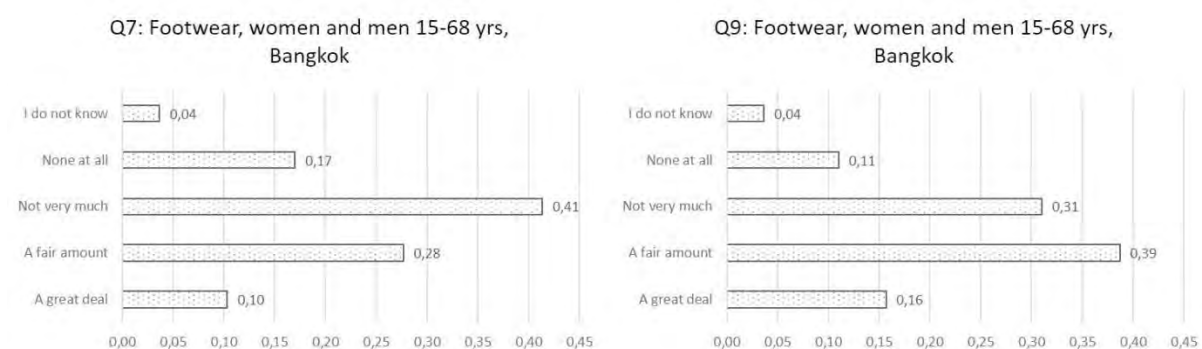
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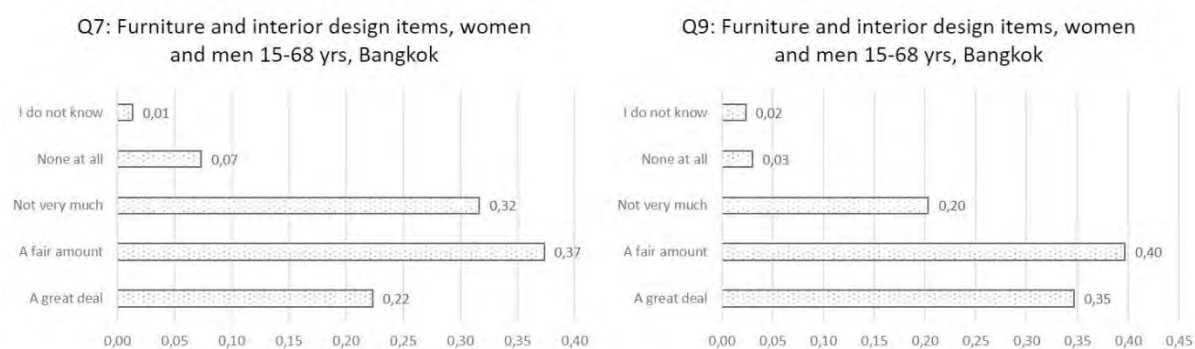
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Bangkok).



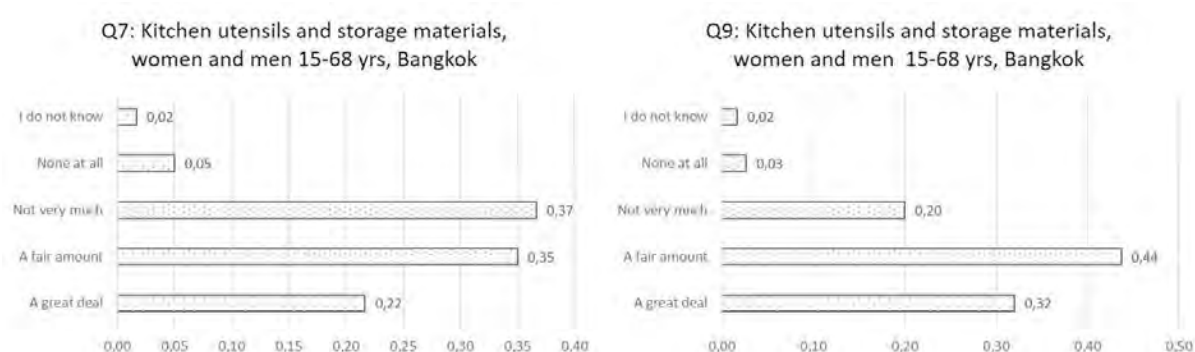
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Bangkok).



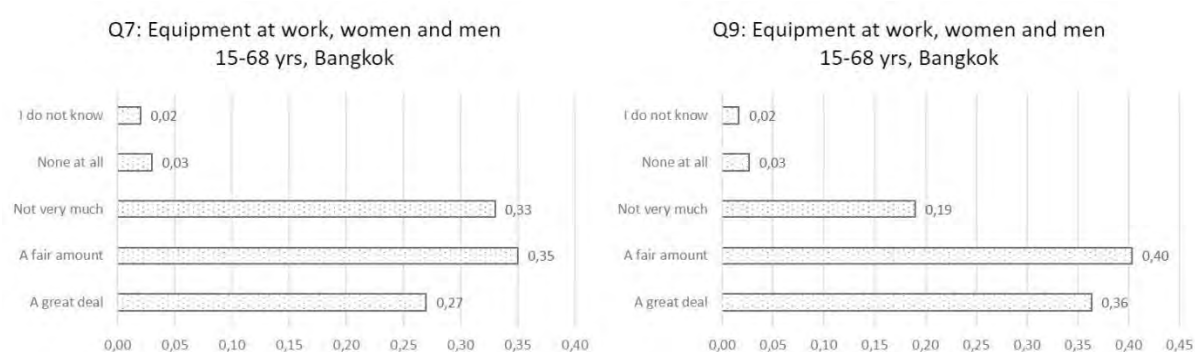
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 300, Bangkok).



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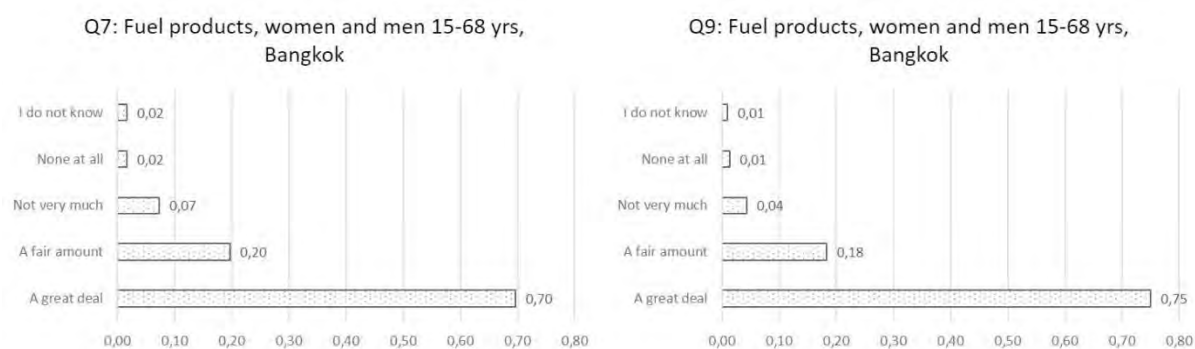


**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Bangkok).

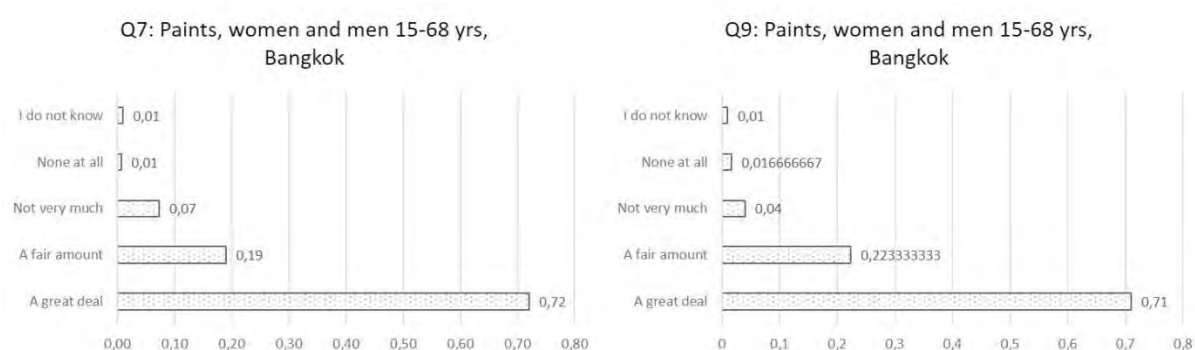


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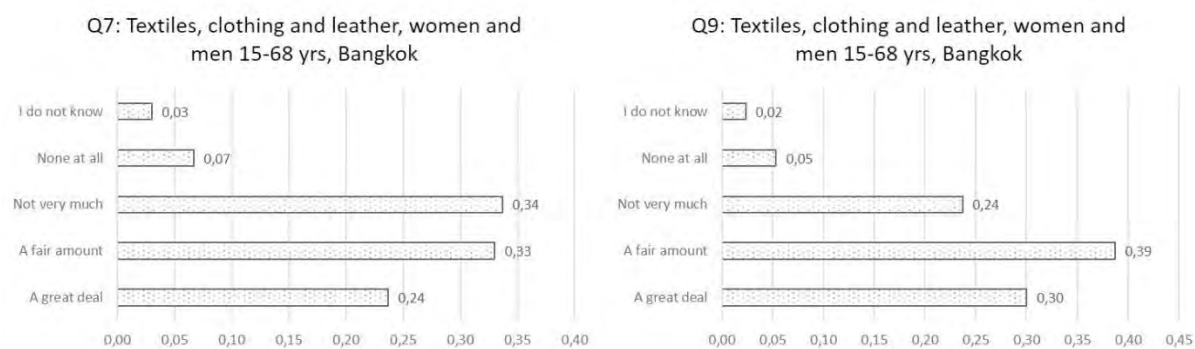




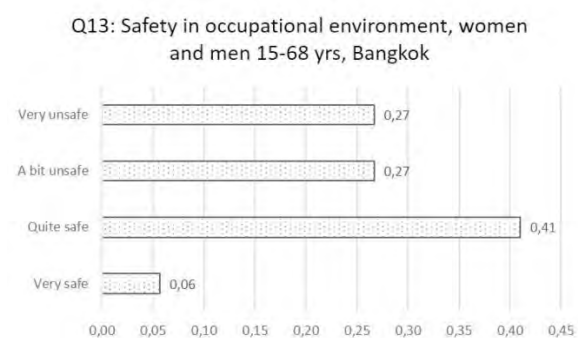
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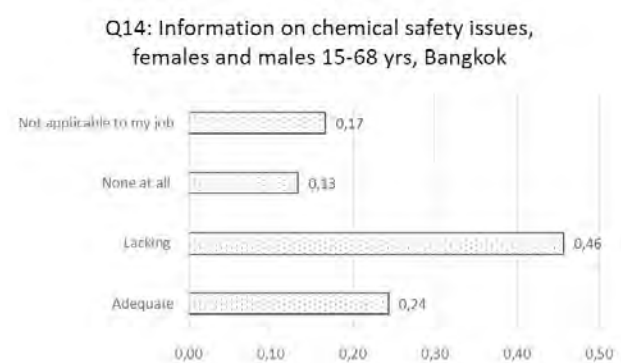
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Bangkok).



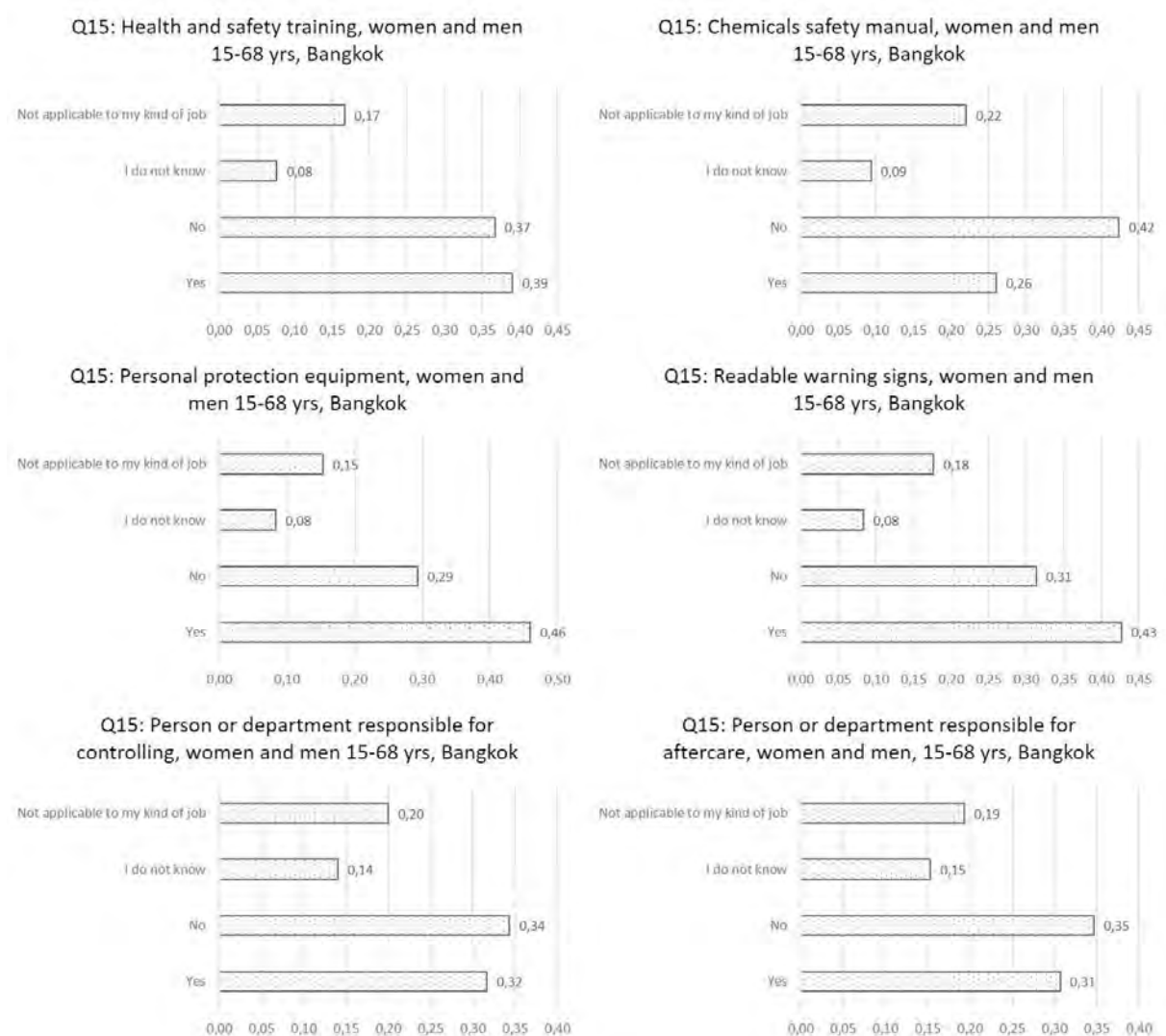
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Bangkok).



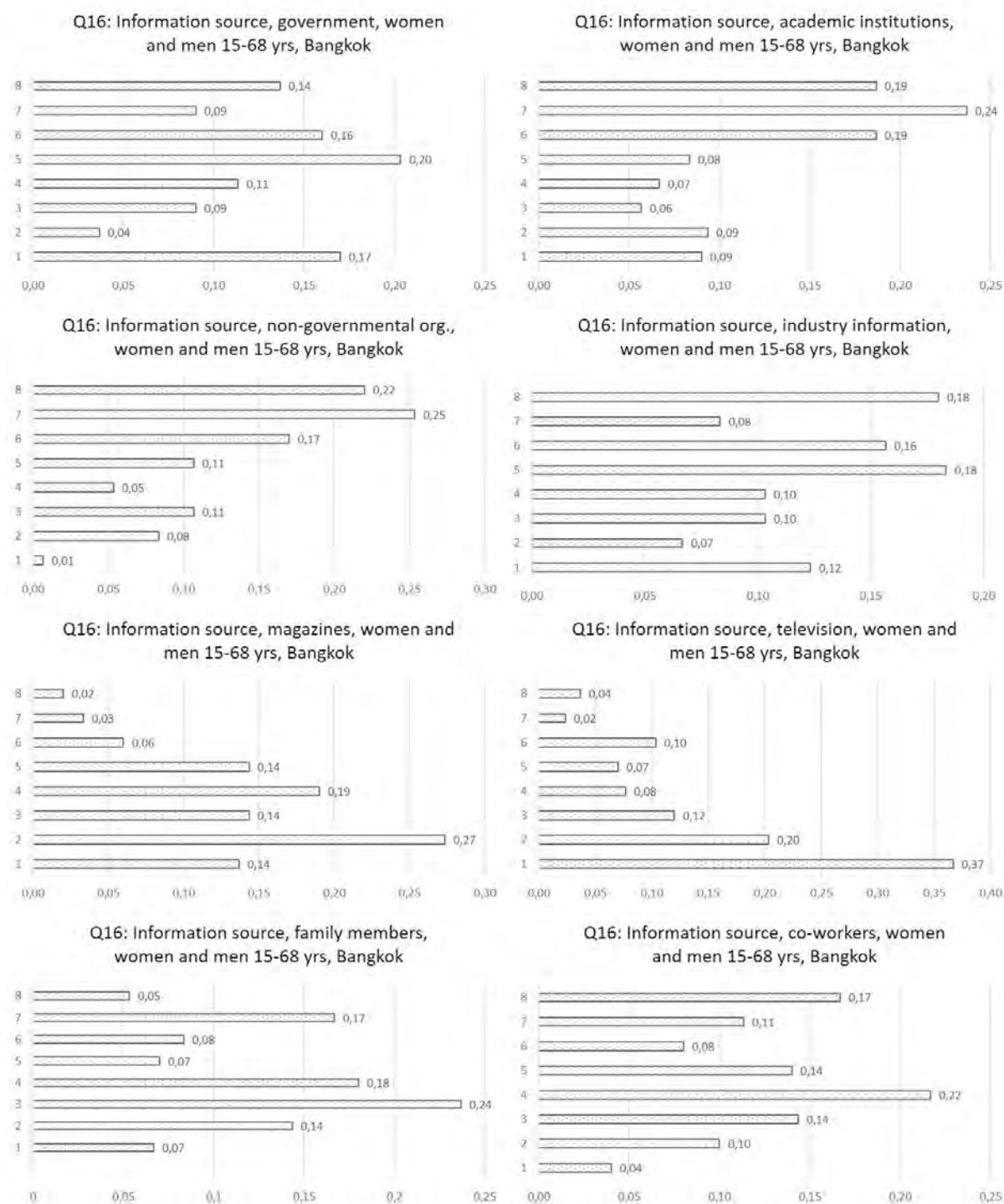
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Bangkok).



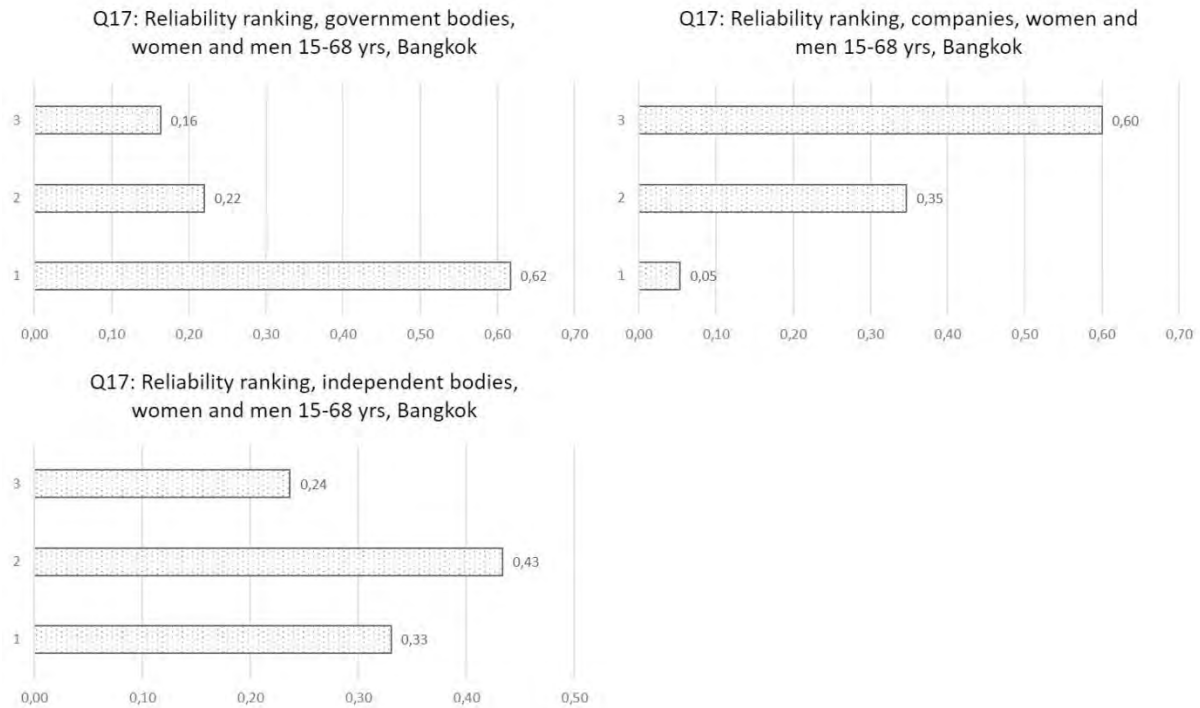
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Bangkok).



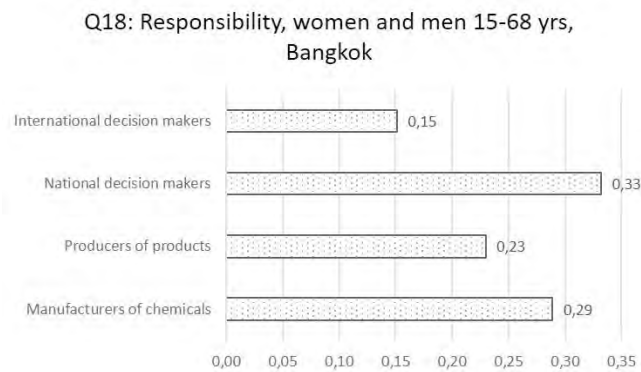
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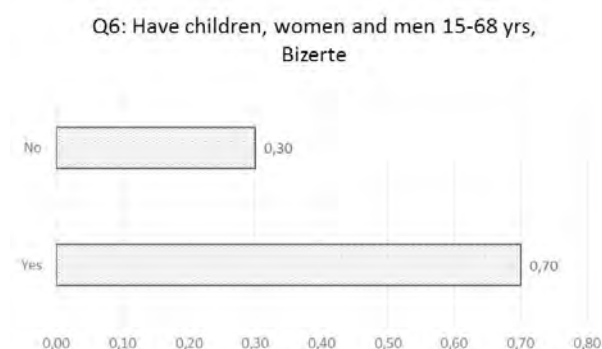


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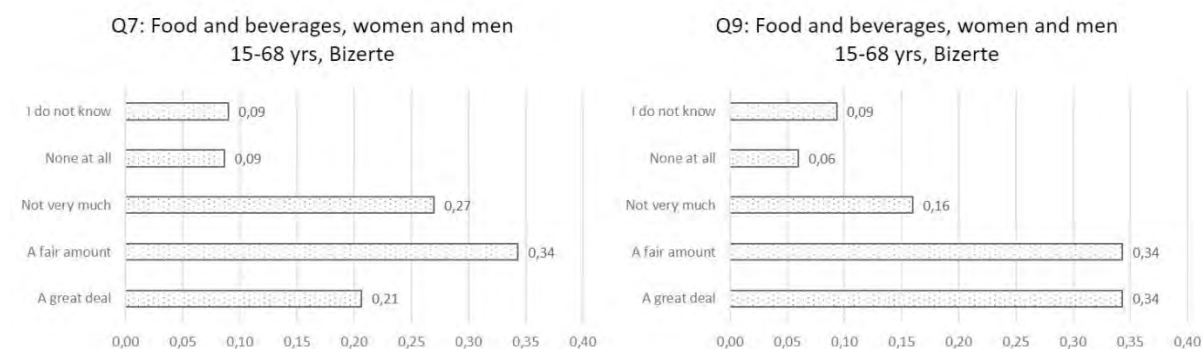
## Appendix K

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.30 for the option “no” in Figure 1 implies that 30% of the poll respondents replied “no”; 0.70 that 70% of the poll respondents replied “yes”.

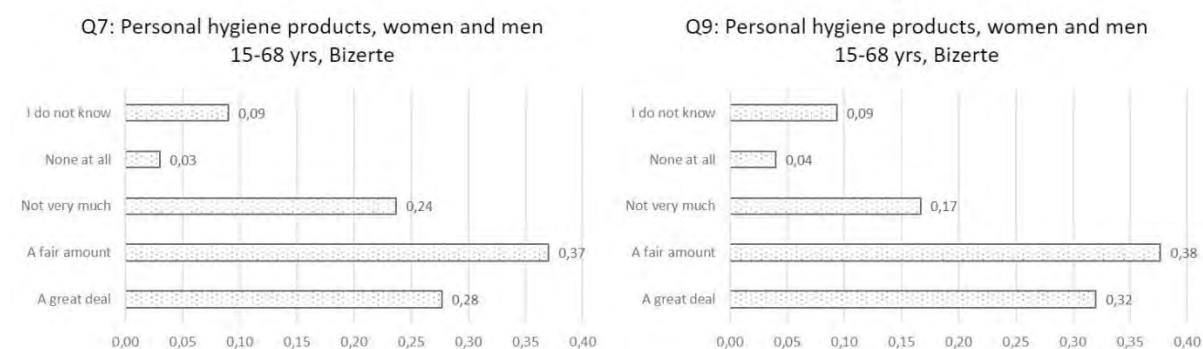
### Tunisa



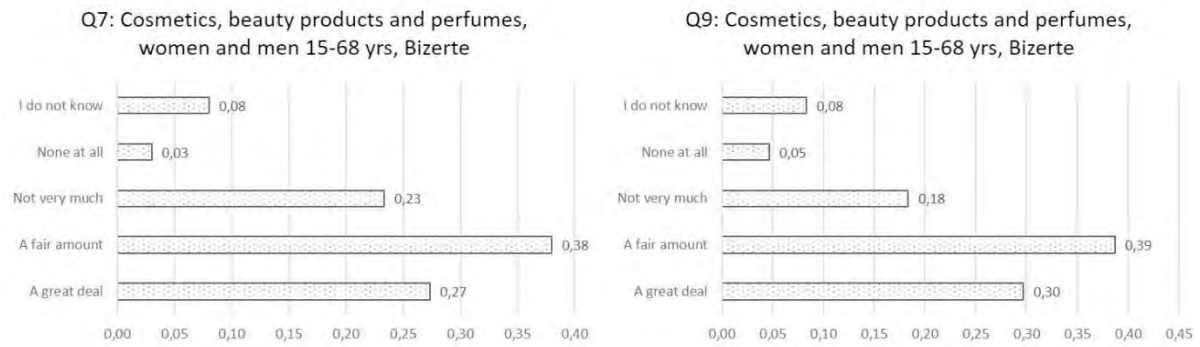
**Figure 1:** Share of poll participants with children or not (sample size: 300, Bizerte)



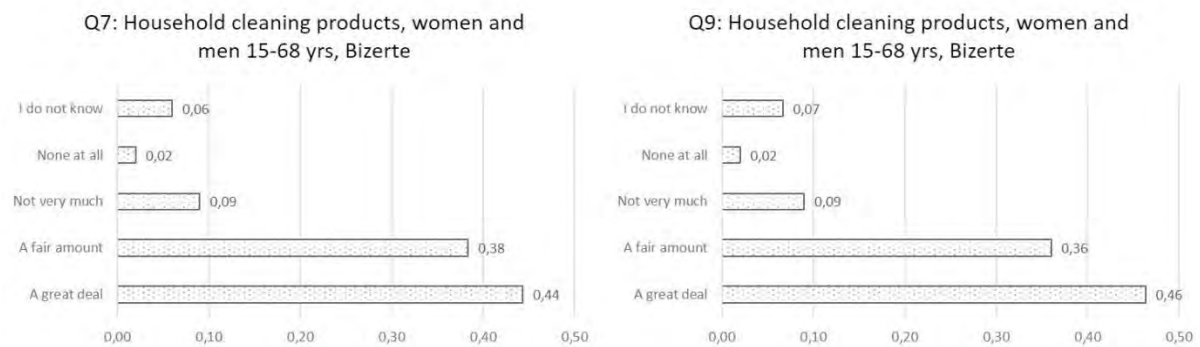
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Bizerte).



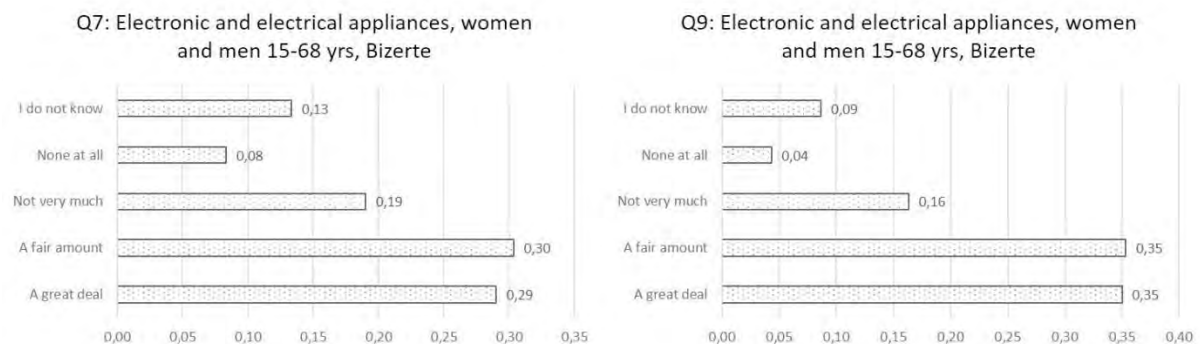
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Bizerte).



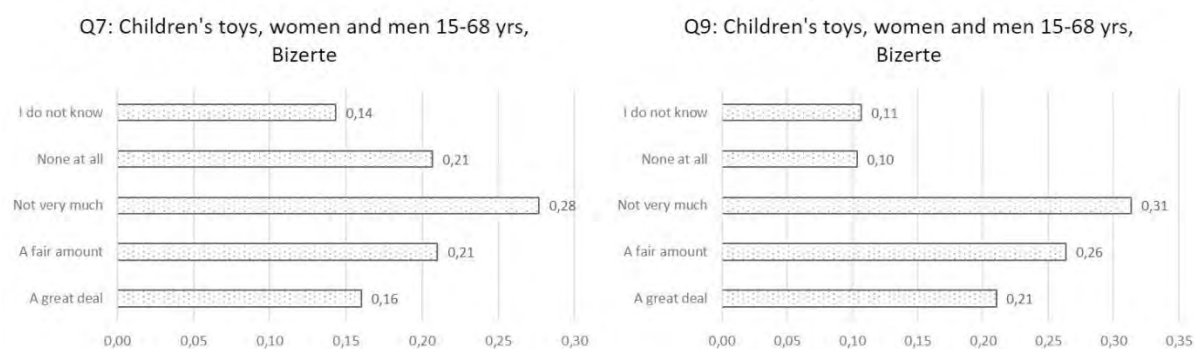
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products and perfumes (right hand graph), share of poll participants (sample size: 300, Bizerte).



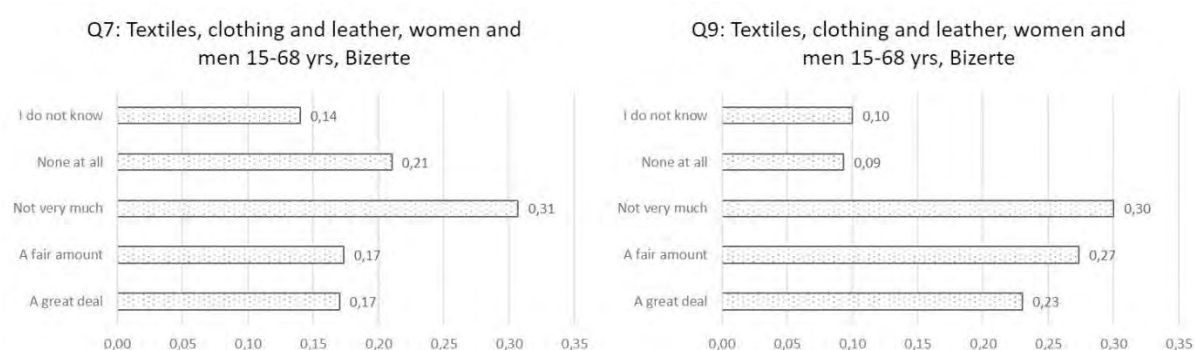
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, beauty products and perfumes, share of poll participants (right hand graph) (sample size: 300, Bizerte).



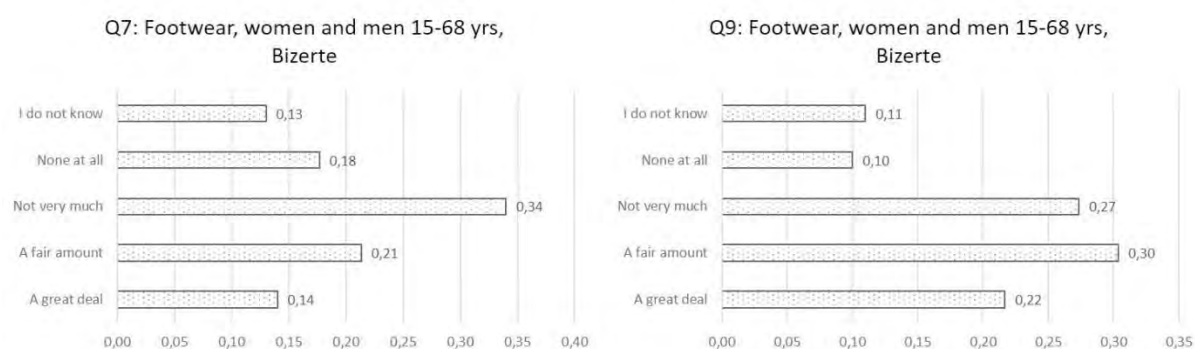
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Bizerte).



**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Bizerte).

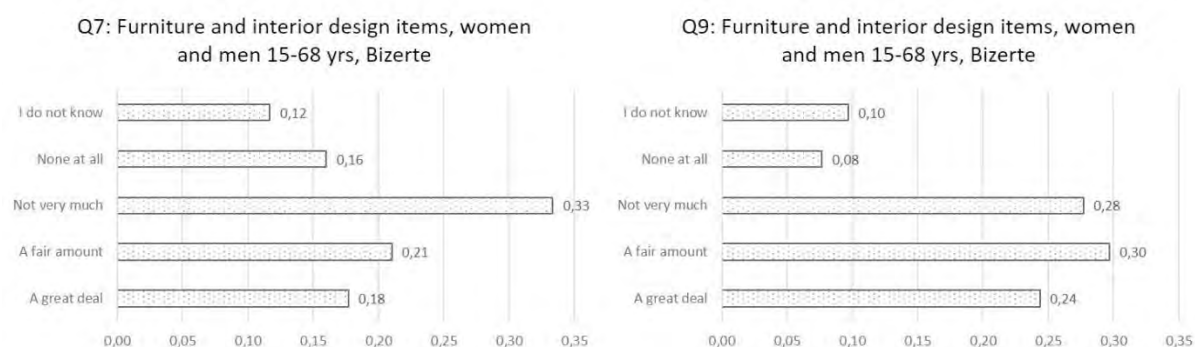


**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Bizerte).

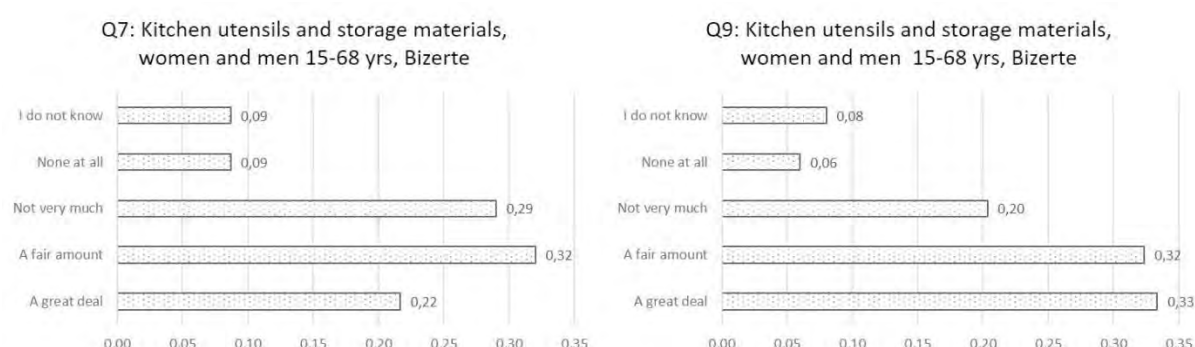


**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 300, Bizerte).

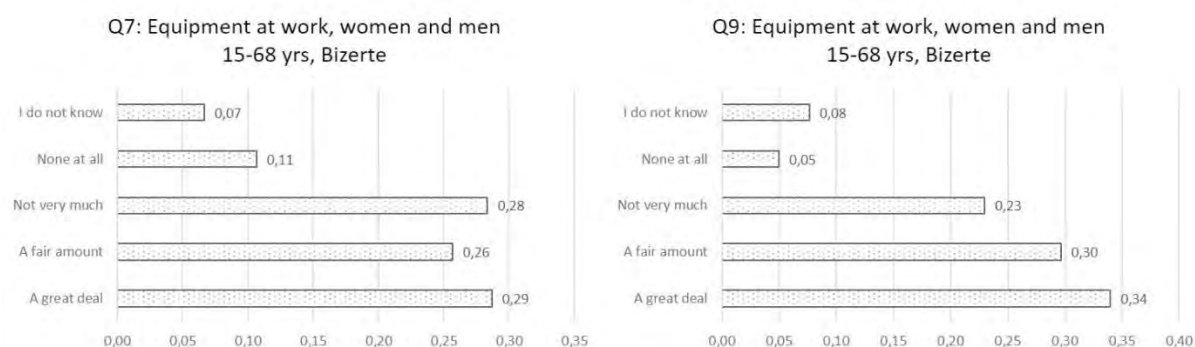




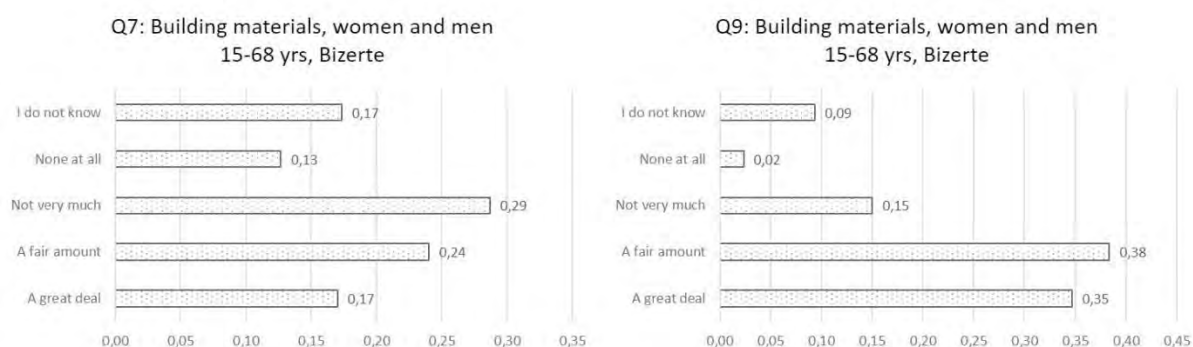
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Bizerte).



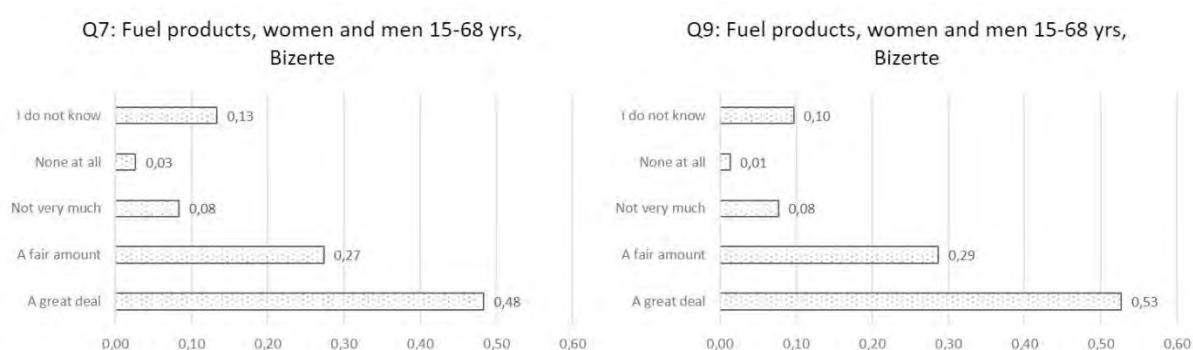
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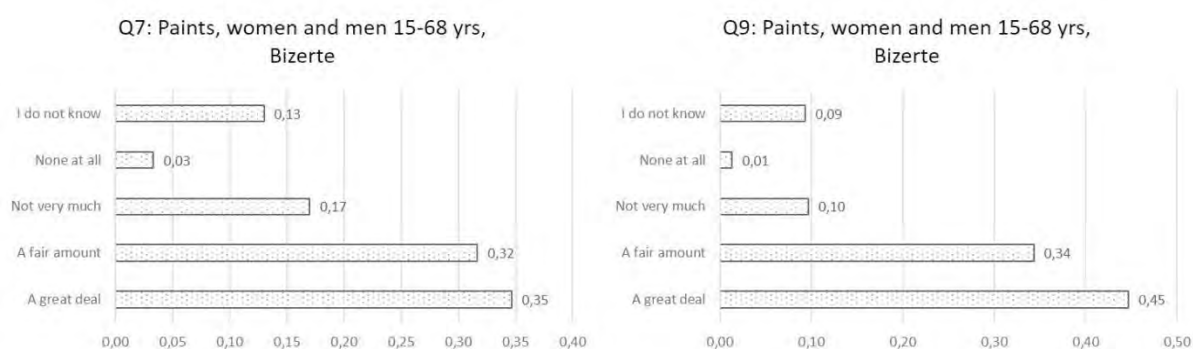
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Bizerte).



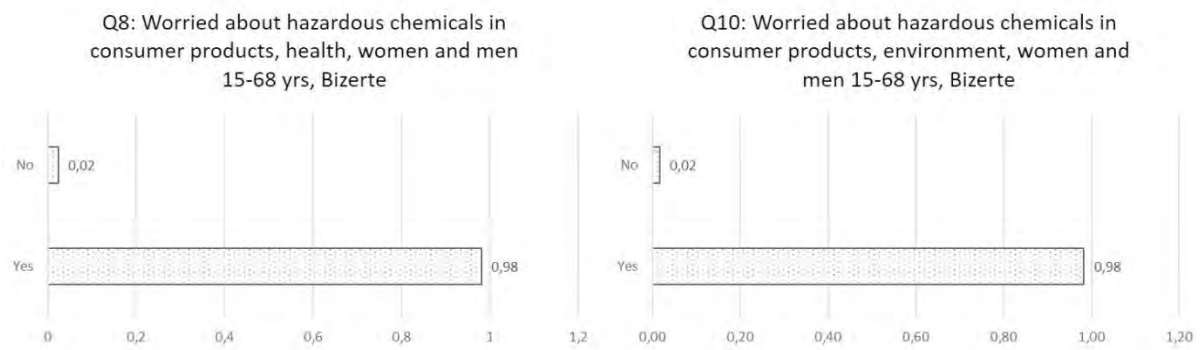
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, Bizerte).



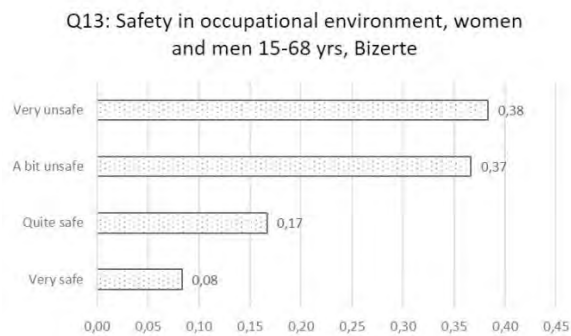
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, Bizerte).



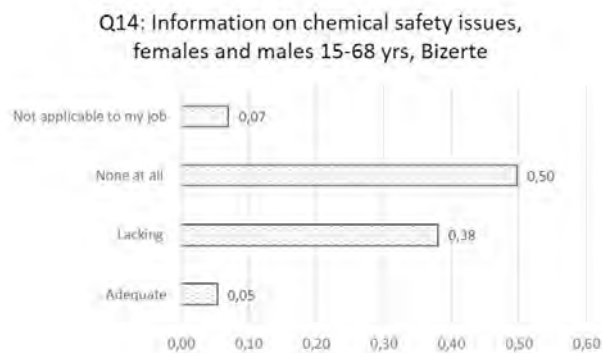
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Bizerte).



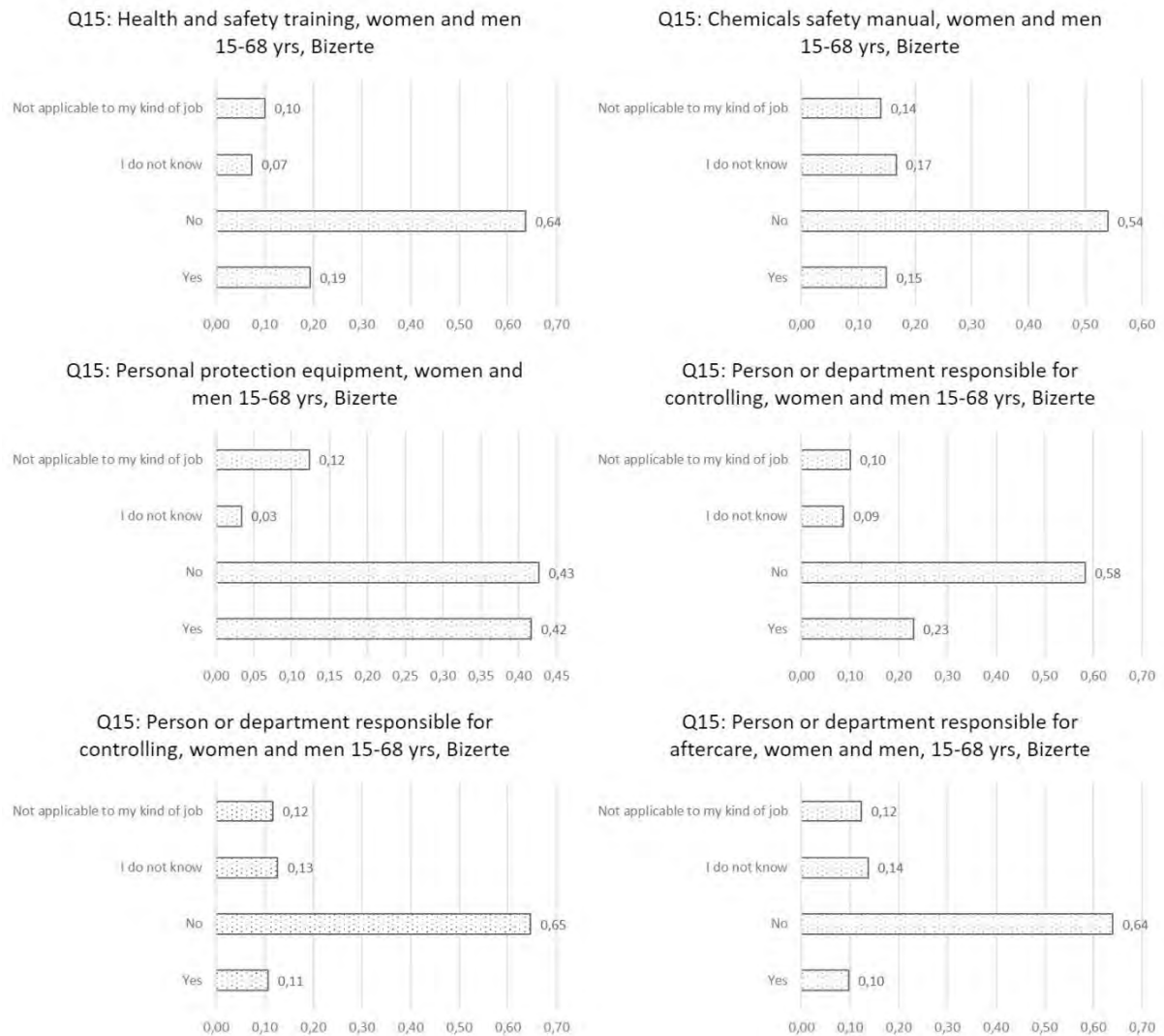
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Bizerte).



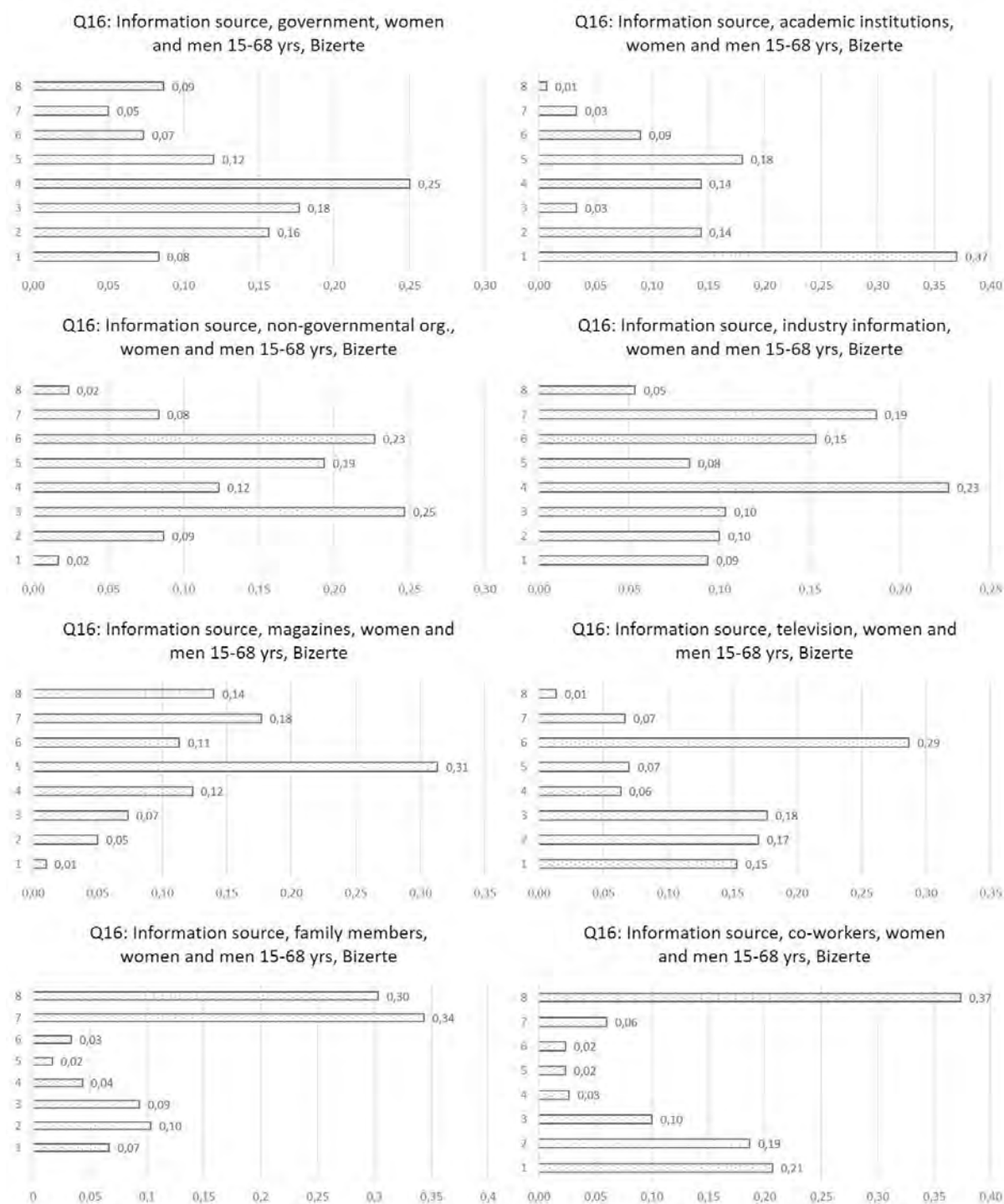
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Bizerte).



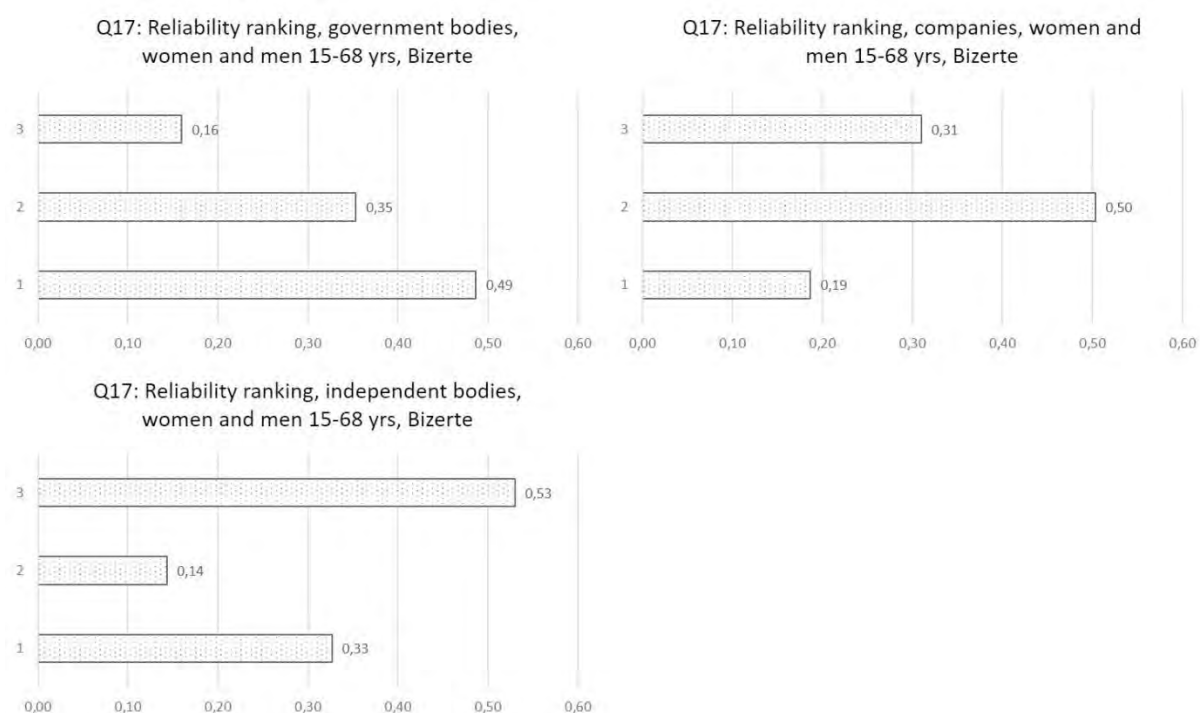
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Bizerte).



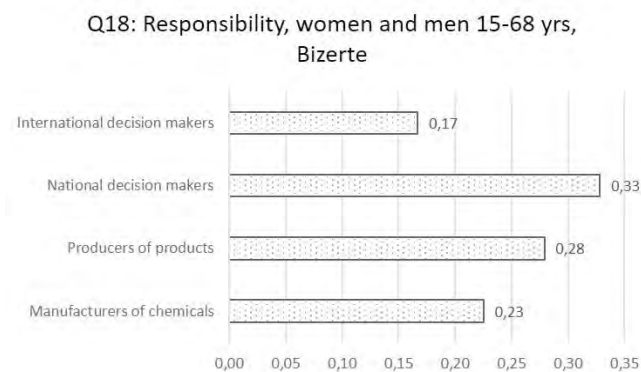
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Bizerte).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Bizerte). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, Bizerte). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

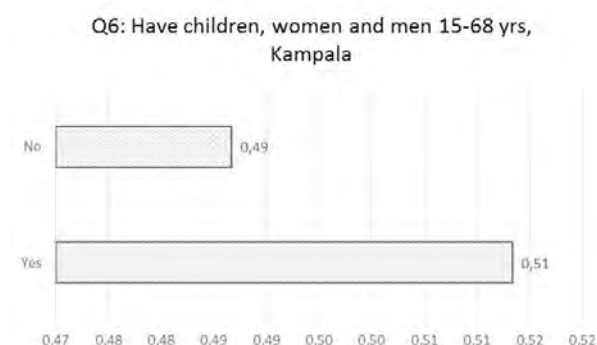


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Bizerte). The poll participants could pick several of the available choices.

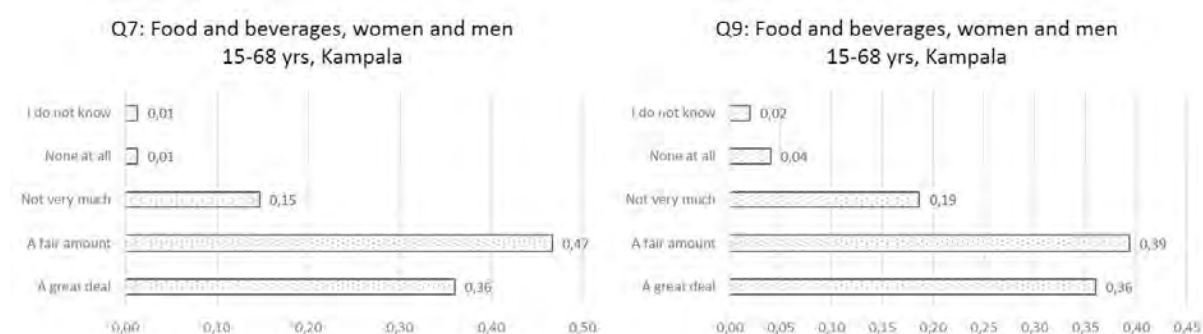
## Appendix K a)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.49 for the option “no” in Figure 1 implies that 49% of the poll respondents replied “no”; 0.51 that 51% of the poll respondents replied “yes”.

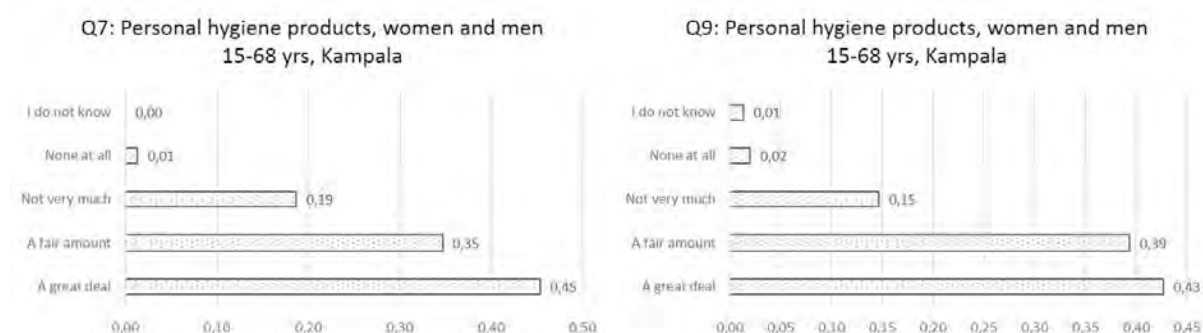
### Uganda



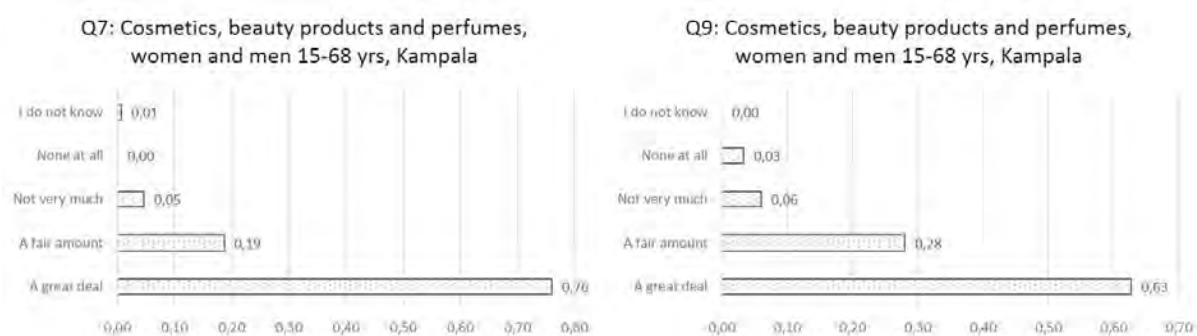
**Figure 1:** Share of poll participants with children or not (sample size: 150, Kampala)



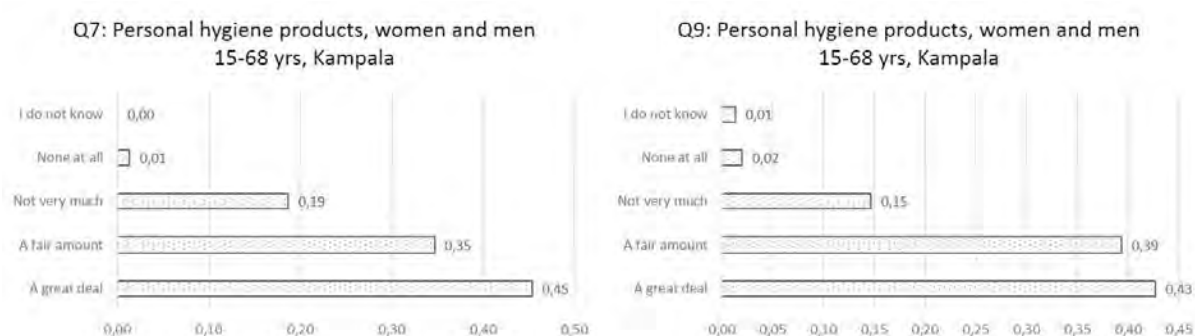
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 150, Kampala).



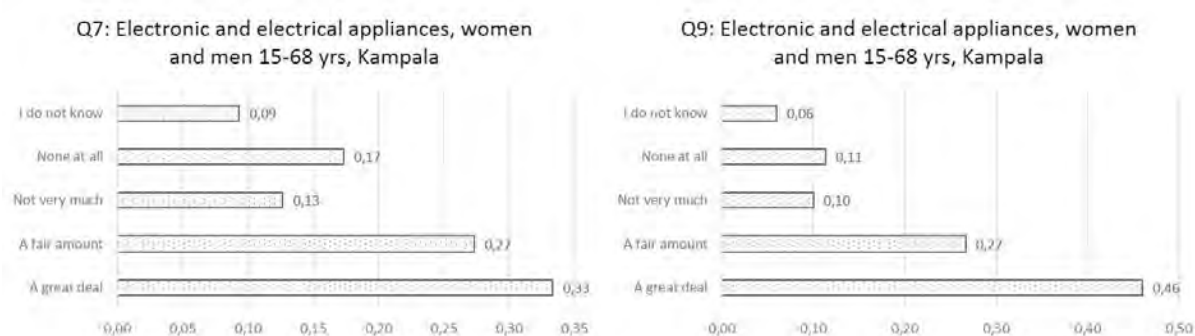
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 150, Kampala).



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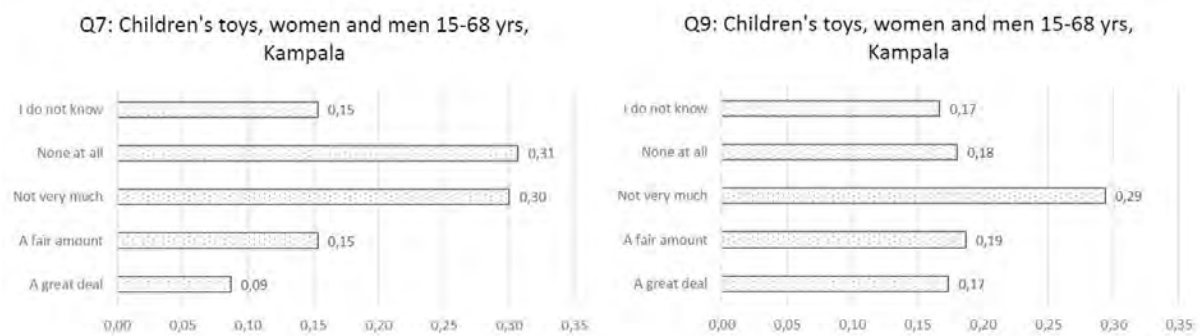


**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products, share of poll participants (right hand graph) (sample size: 150, Kampala).

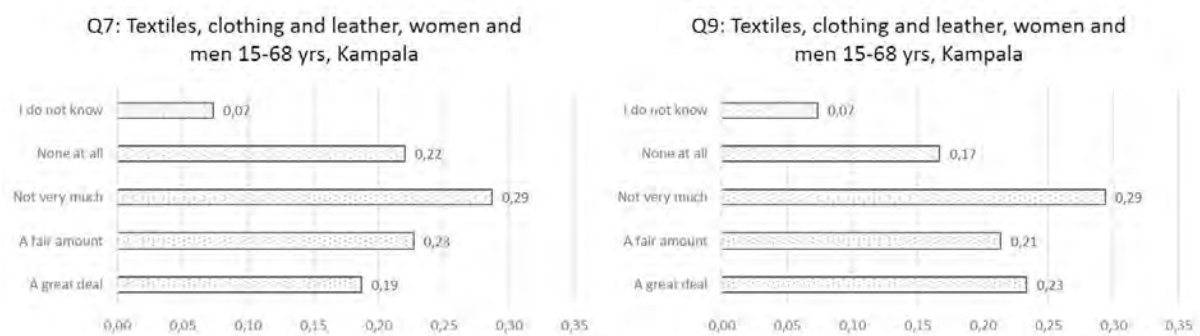


**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 150, Kampala).

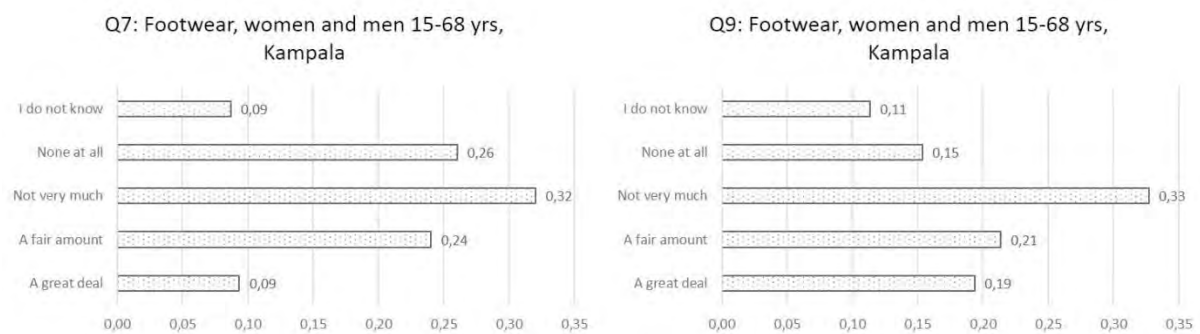




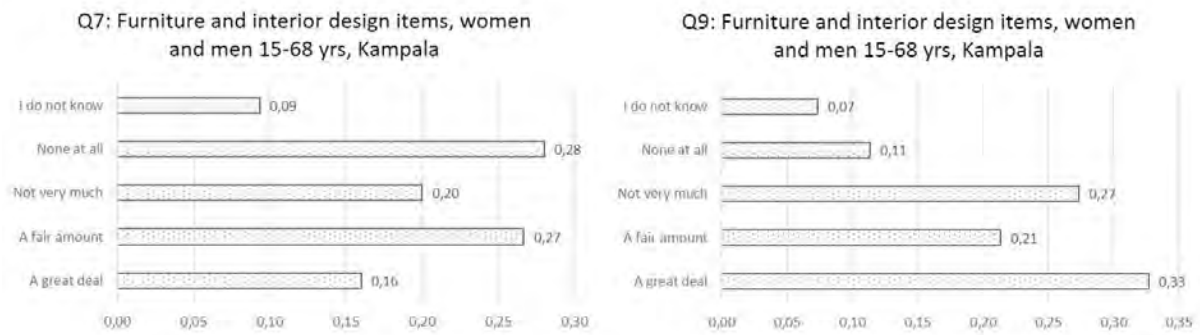
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 150, Kampala).



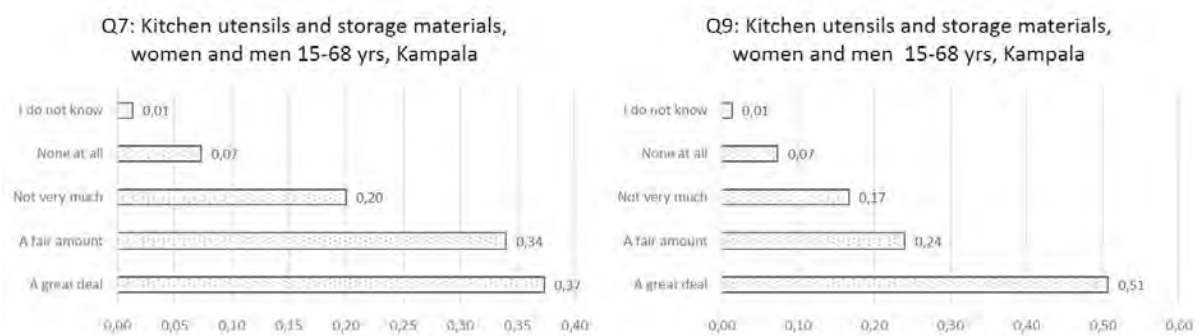
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 150, Kampala).



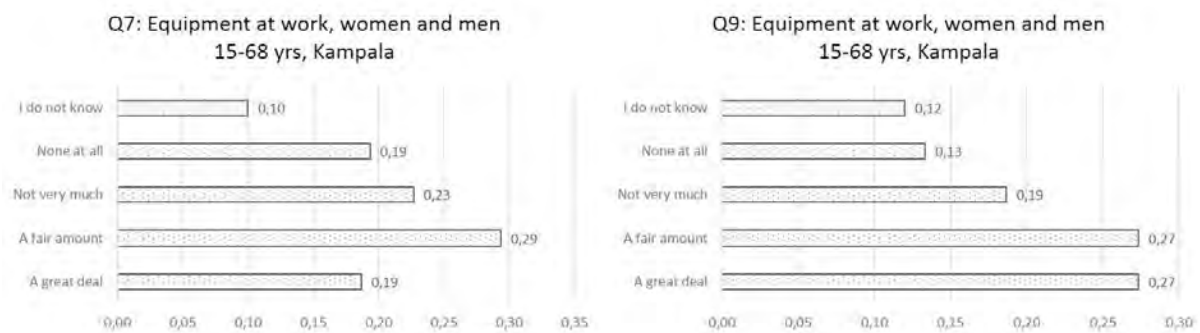
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 150, Kampala).



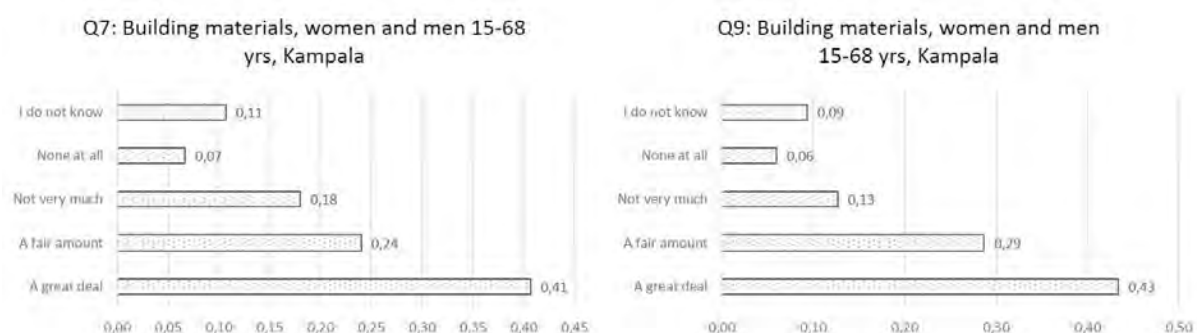
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 150, Kampala).



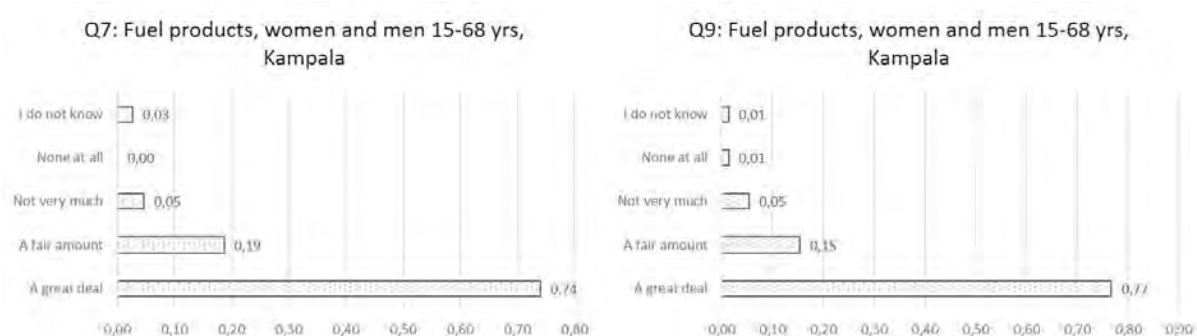
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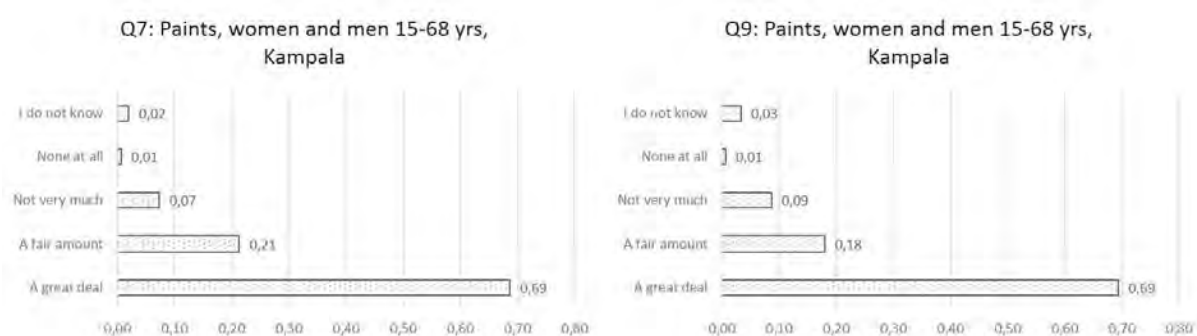
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 150, Kampala).



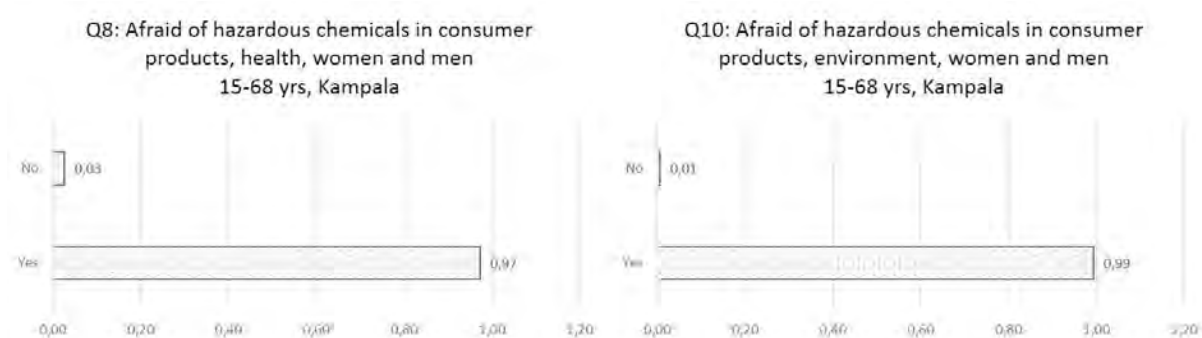
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 150, Kampala).



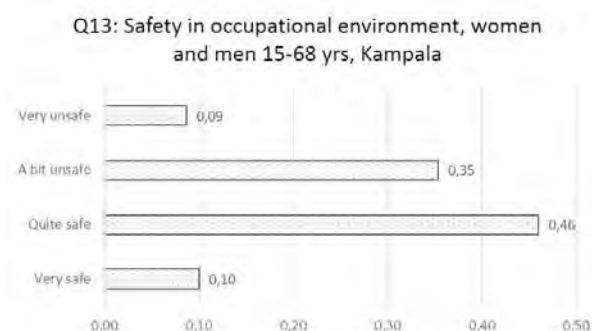
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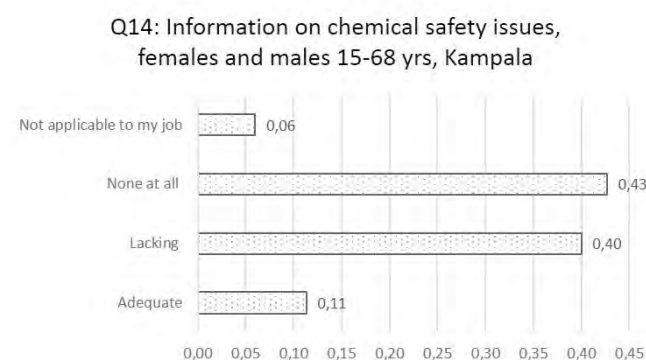
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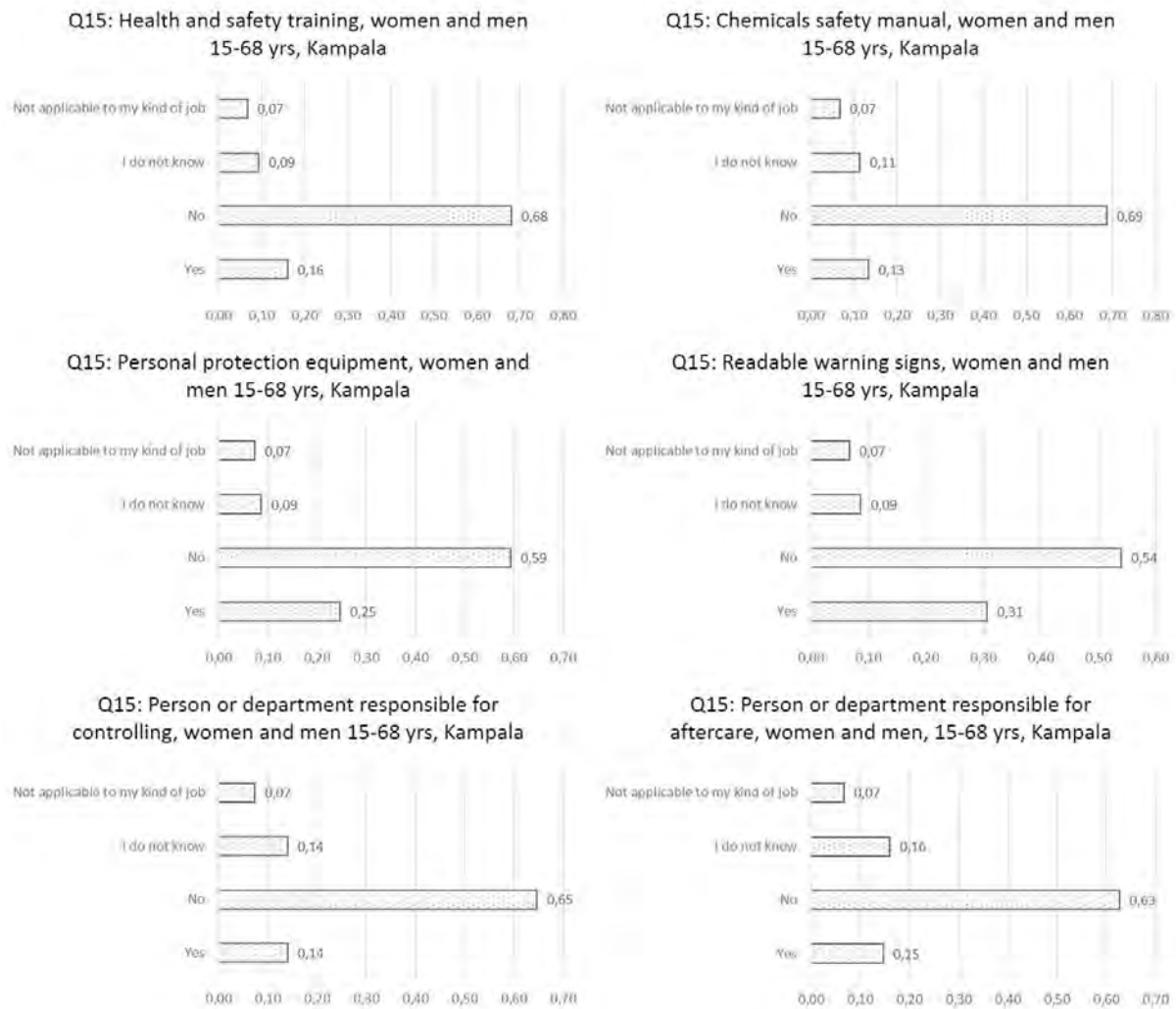
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 150, Kampala).



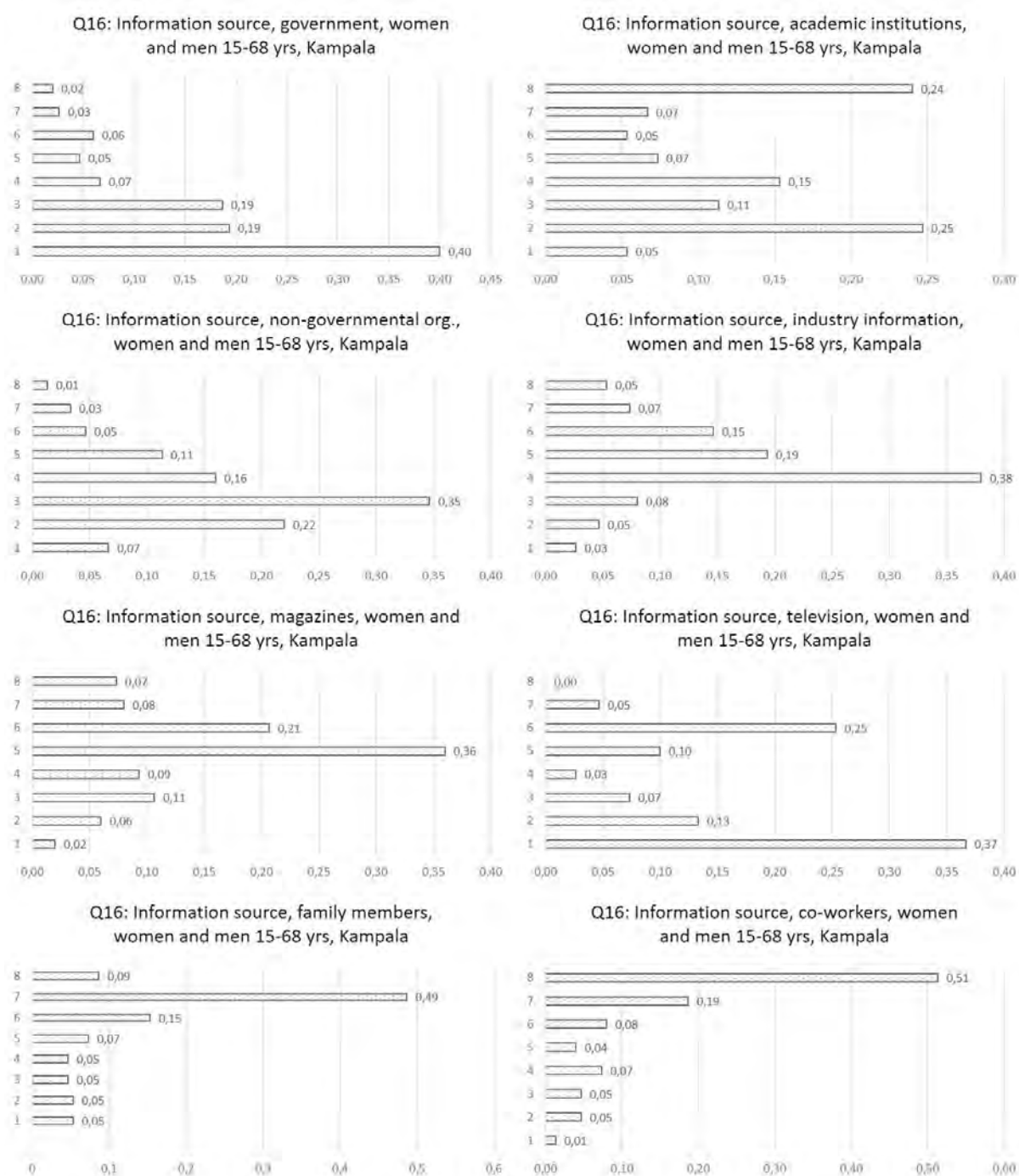
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 150, Kampala).



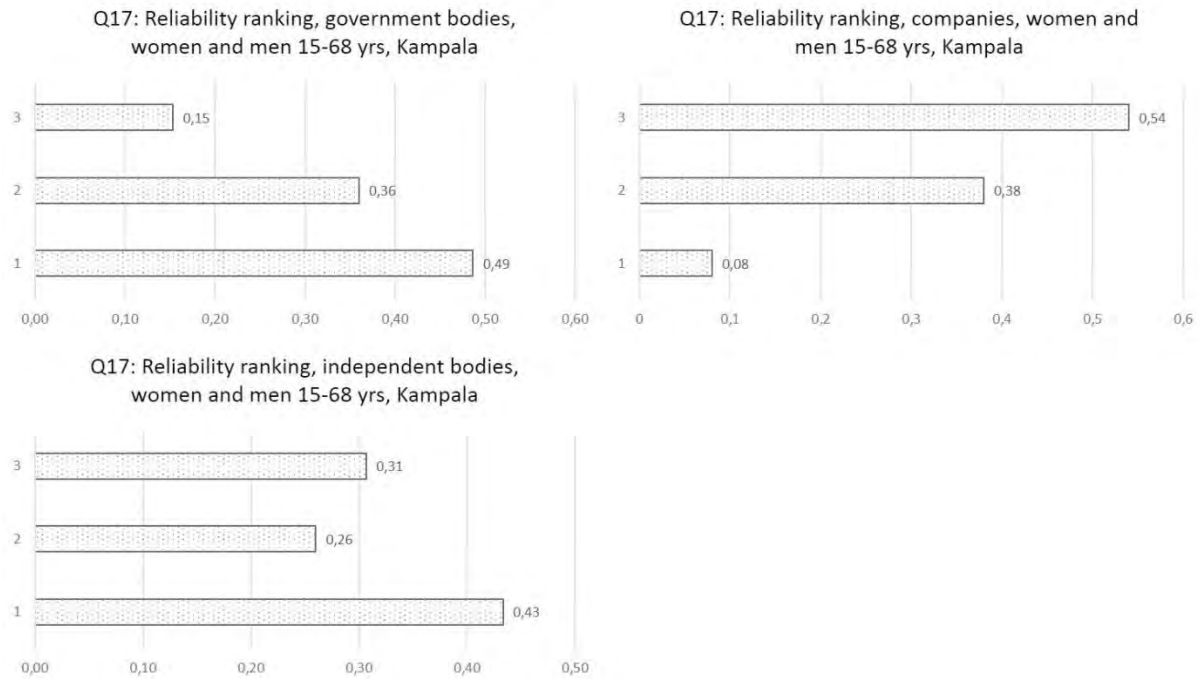
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 150, Kampala).



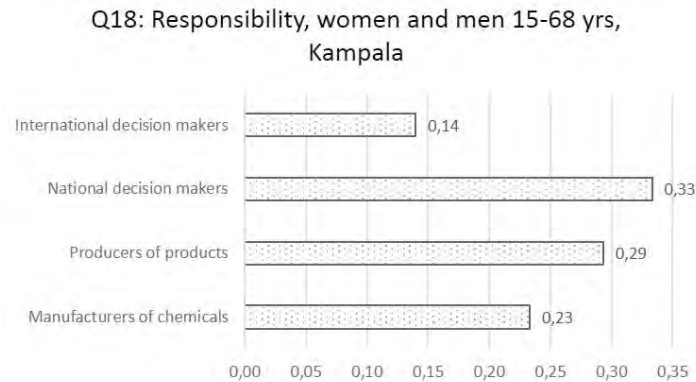
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 150, Kampala).



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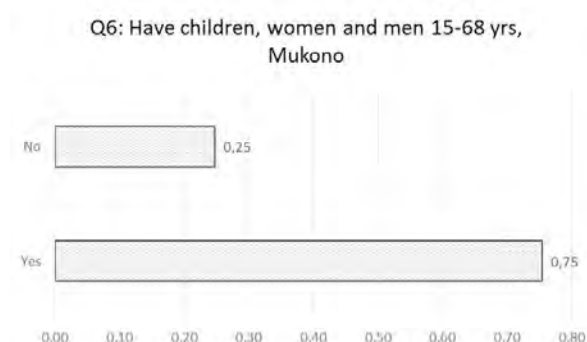


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 150, Kampala). The poll participants could pick several of the available choices.

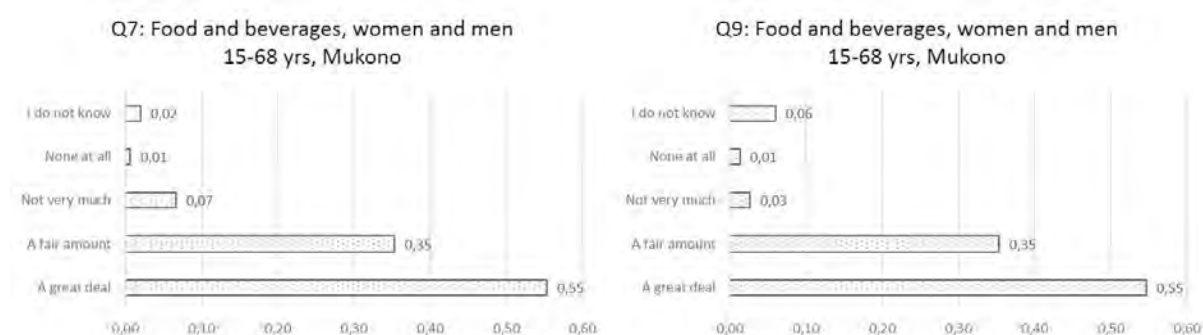
## Appendix L b)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.25 for the option “no” in Figure 1 implies that 25% of the poll respondents replied “no”; 0.75 that 75% of the poll respondents replied “yes”.

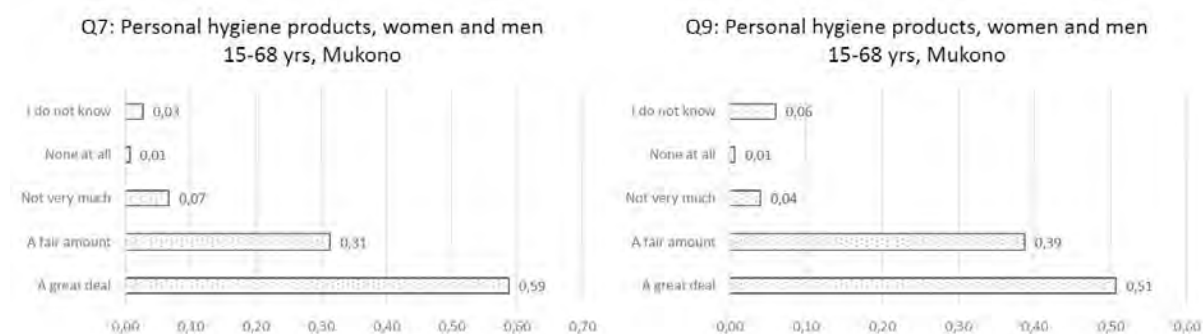
### Uganda



**Figure 1:** Share of poll participants with children or not (sample size: 150, Mukono)

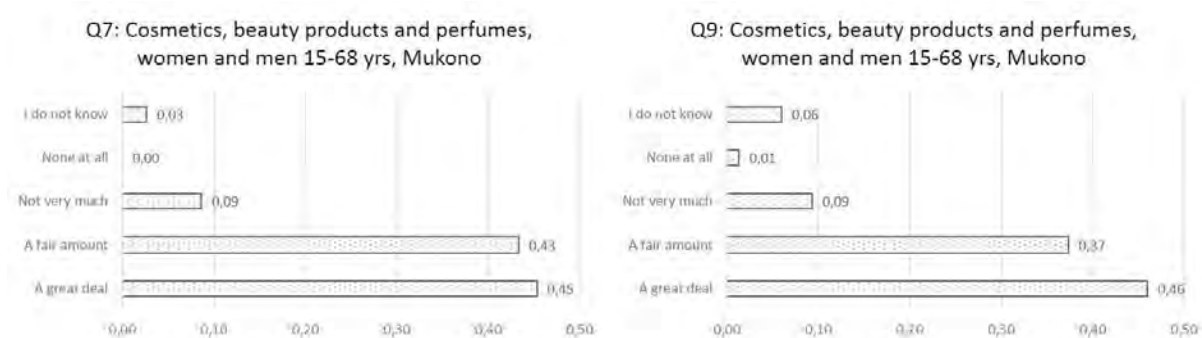


**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 150, Mukono).

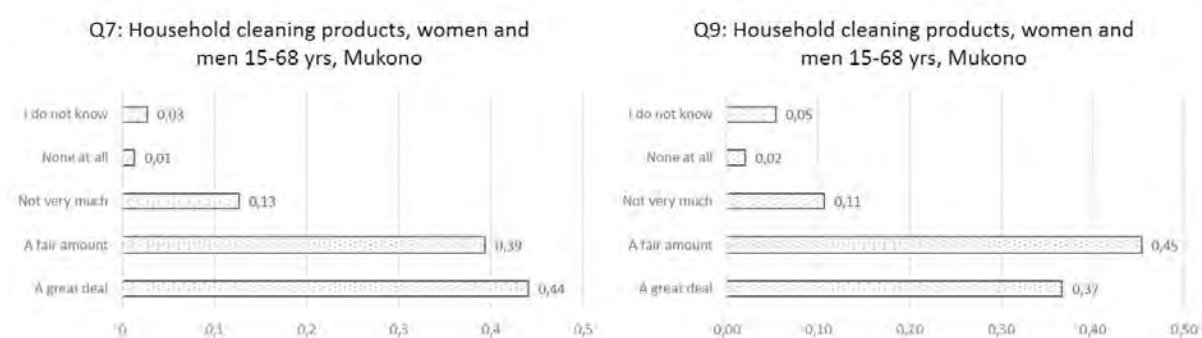


**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 150, Mukono).

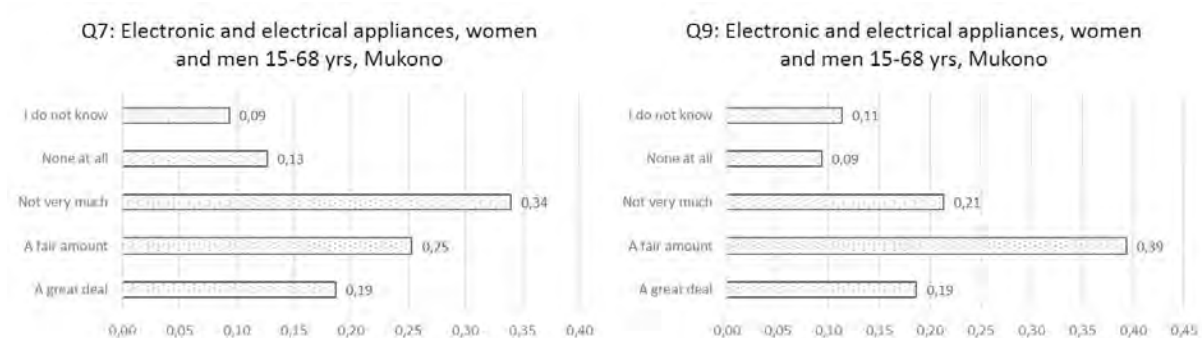




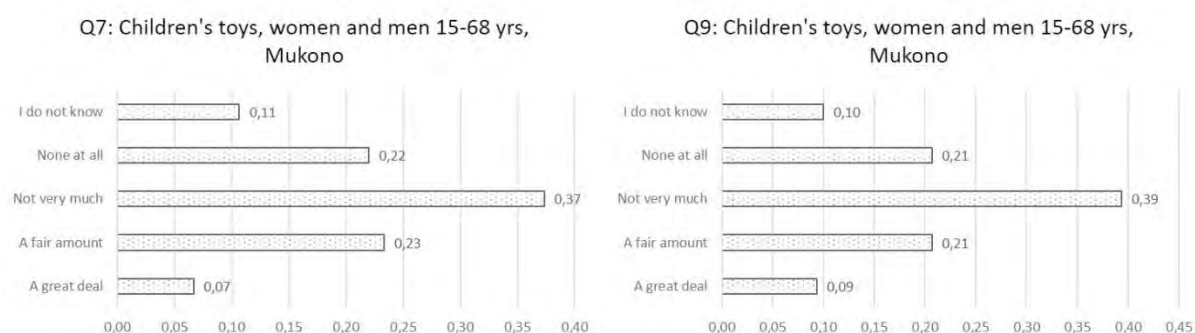
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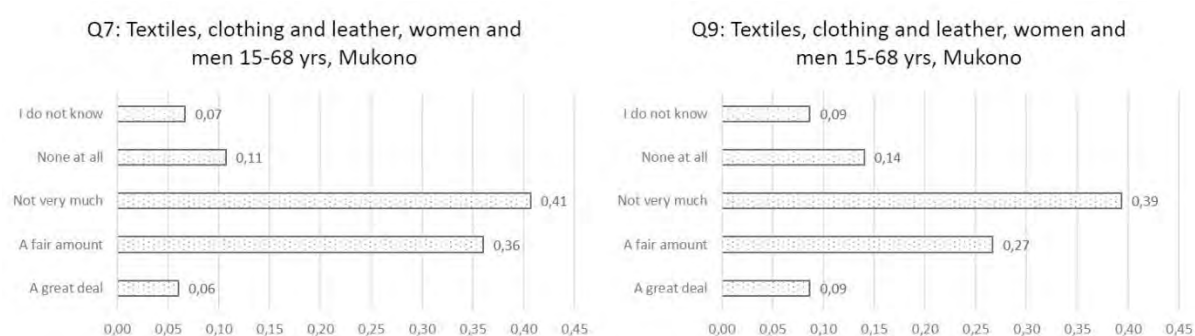
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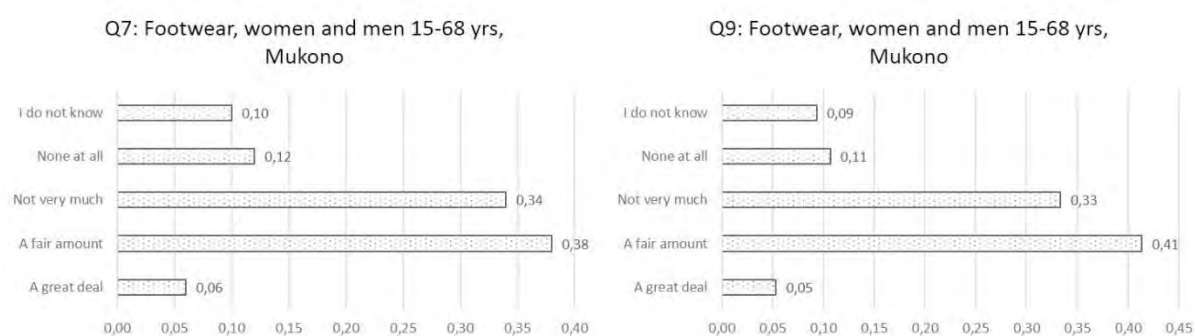
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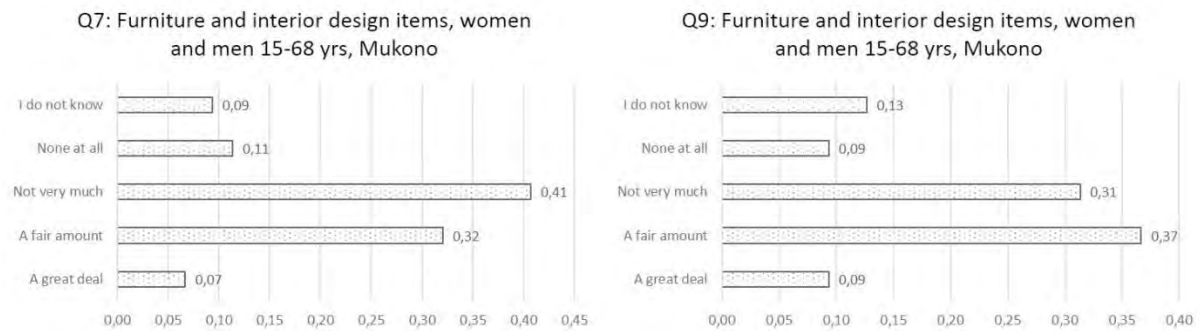
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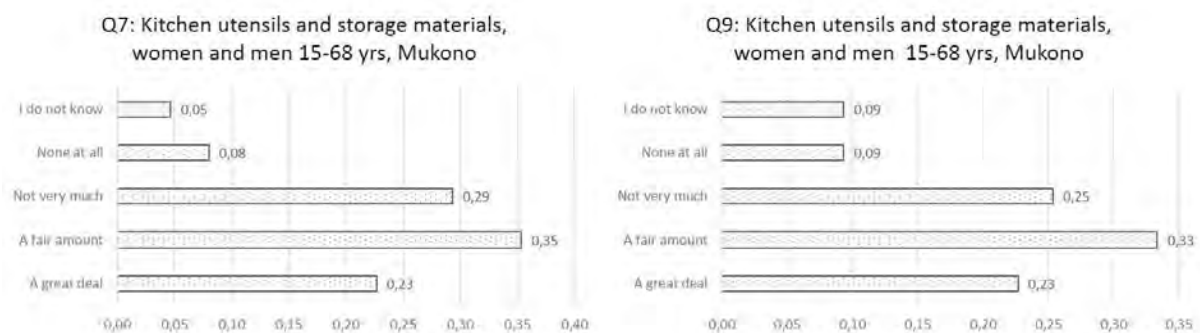
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 150, Mukono).



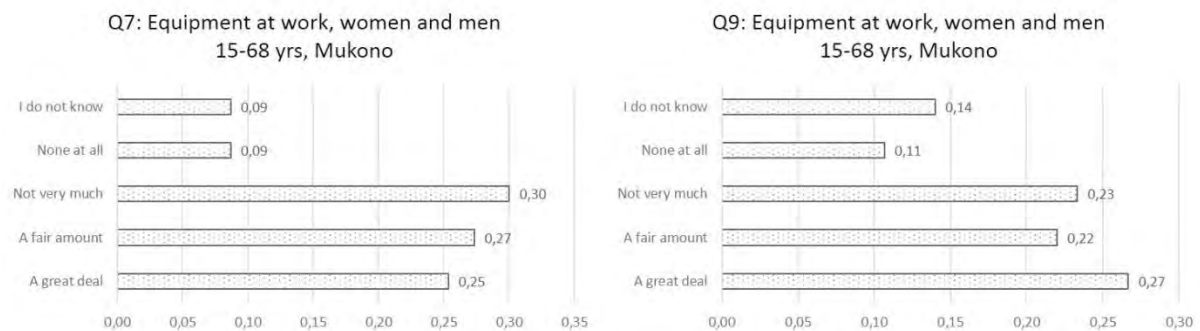
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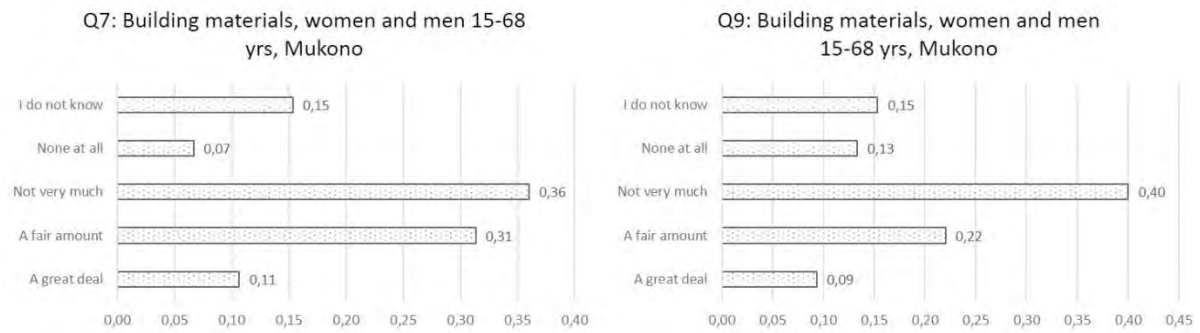
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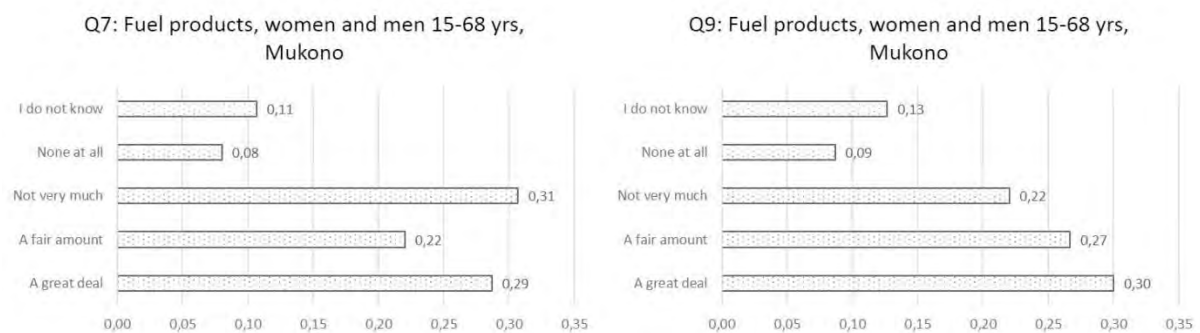
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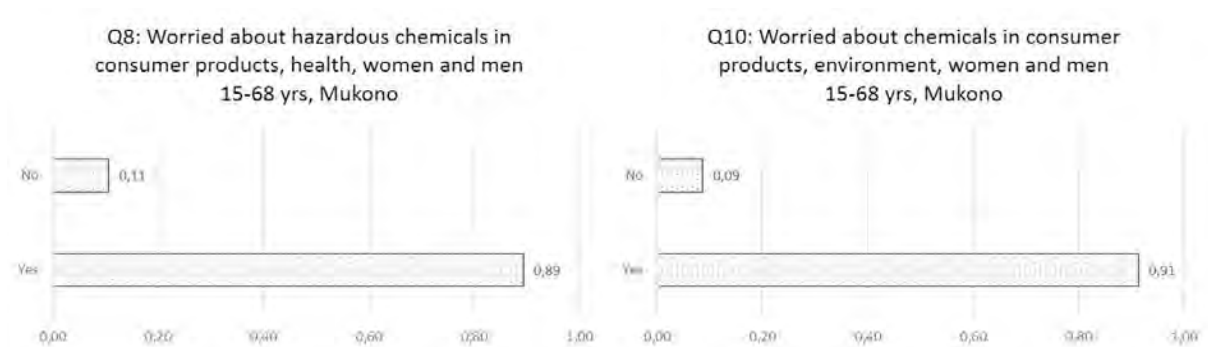
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 150, Mukono).



**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 150, Mukono).



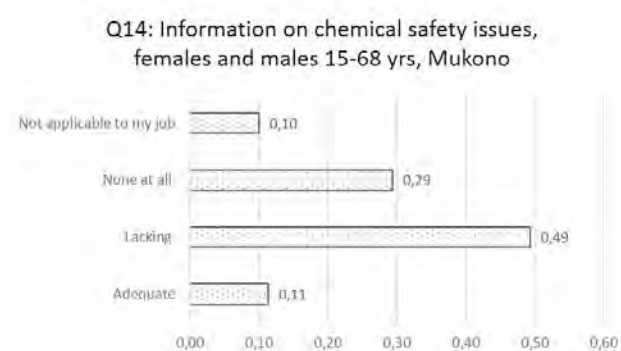
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 150, Mukono).



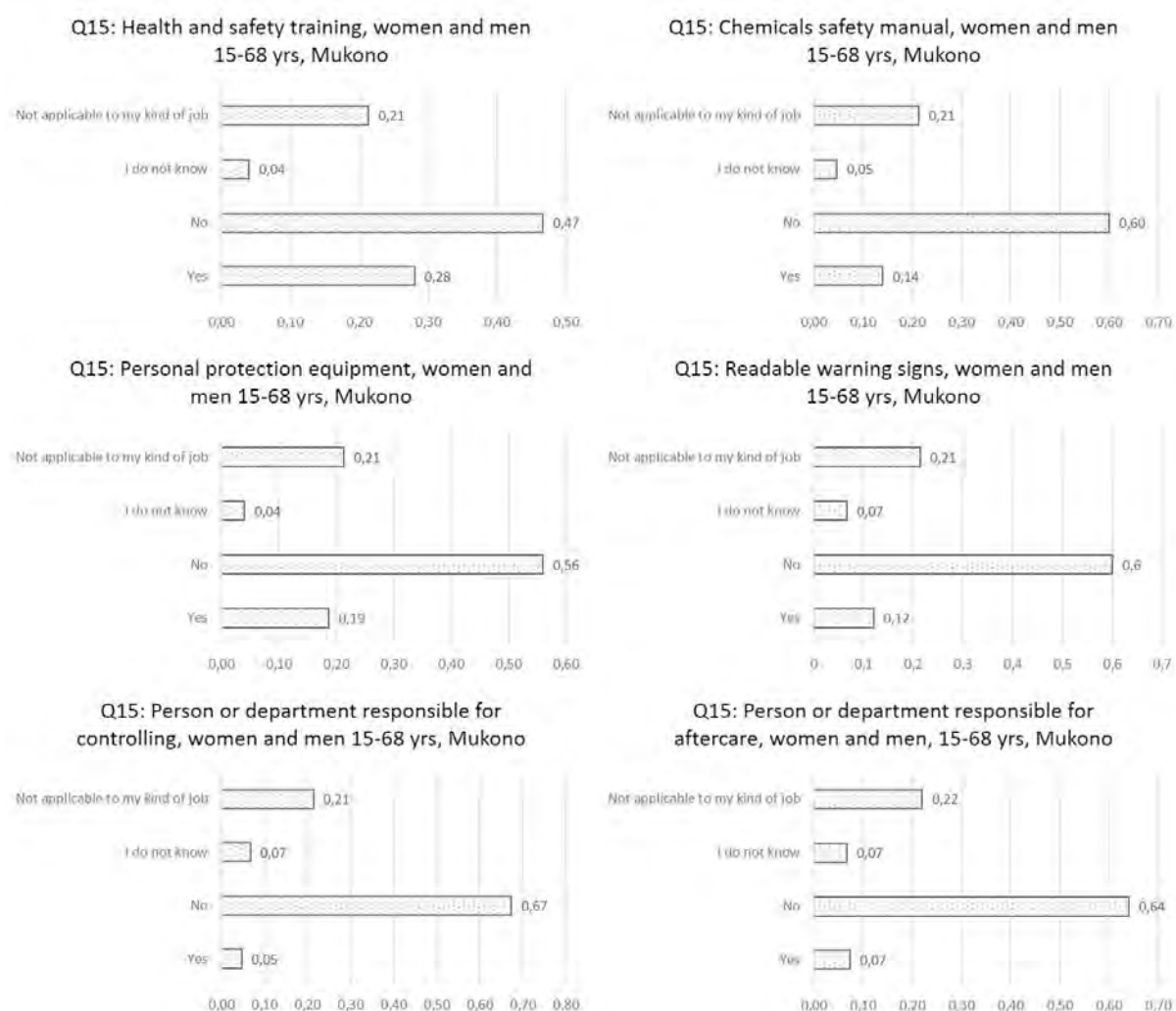
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 150, Mukono).



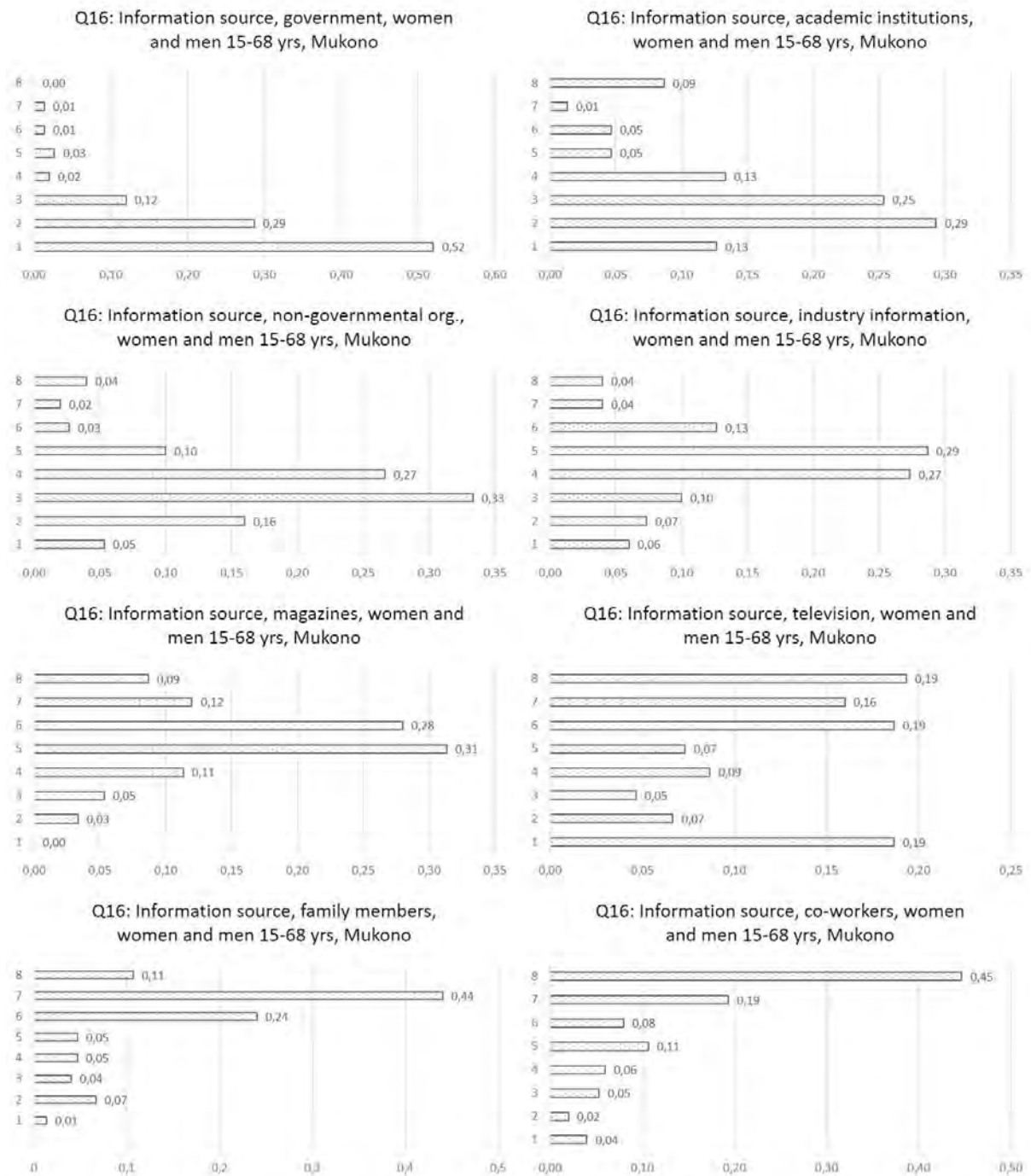
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 150, Mukono).



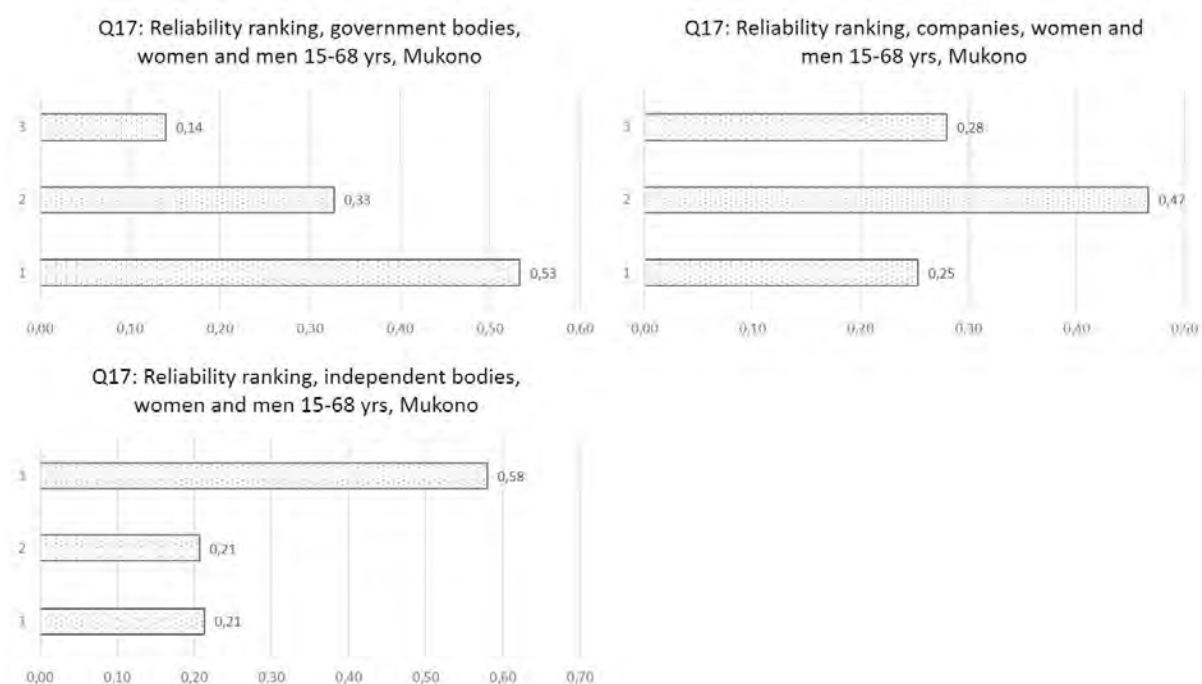
**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 150, Mukono).



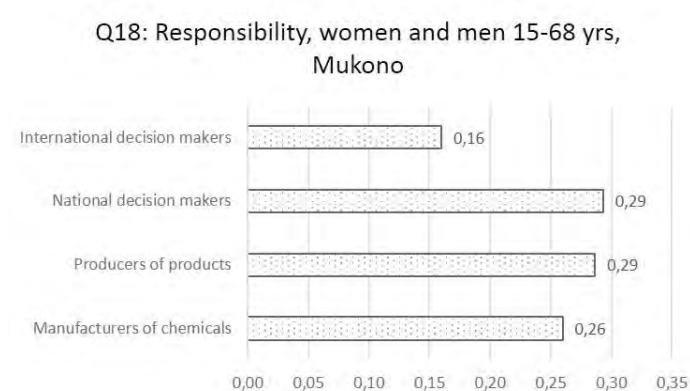
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 150, Mukono).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 150, Mukono). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 150, Mukono). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.



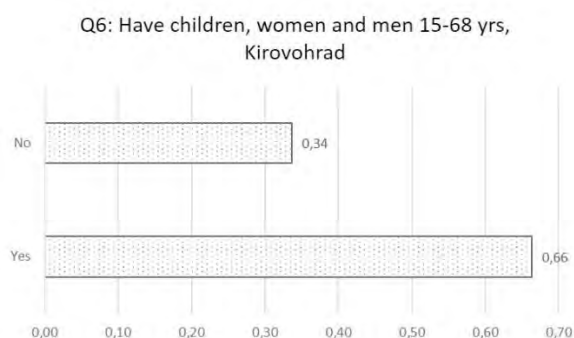
**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 150, Mukono). The poll participants could pick several of the available choices.



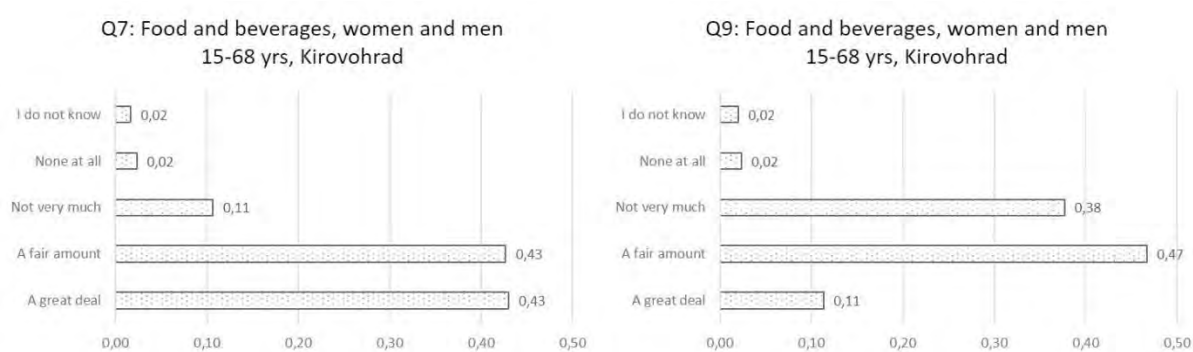
## Appendix L a)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.34 for the option “no” in Figure 1 implies that 34% of the poll respondents replied “no”; 0.66 that 66% of the poll respondents replied “yes”.

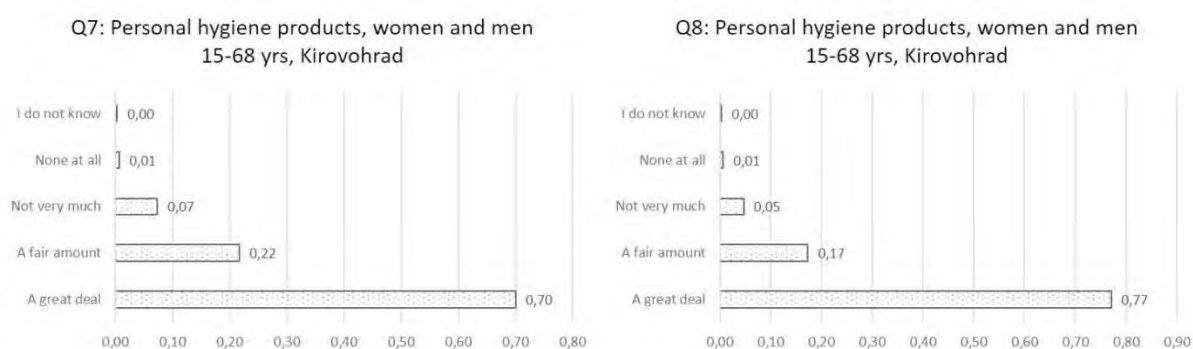
### Ukraine



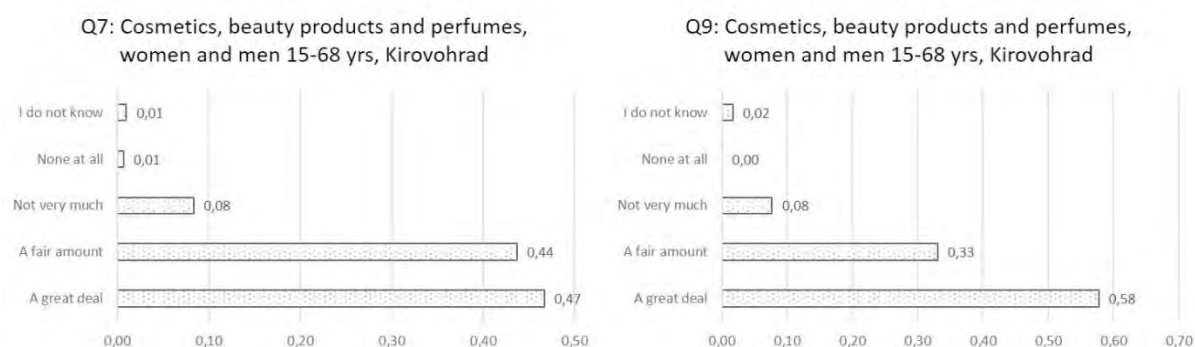
**Figure 1:** Share of poll participants with children or not (sample size: 300, Kirovohrad)



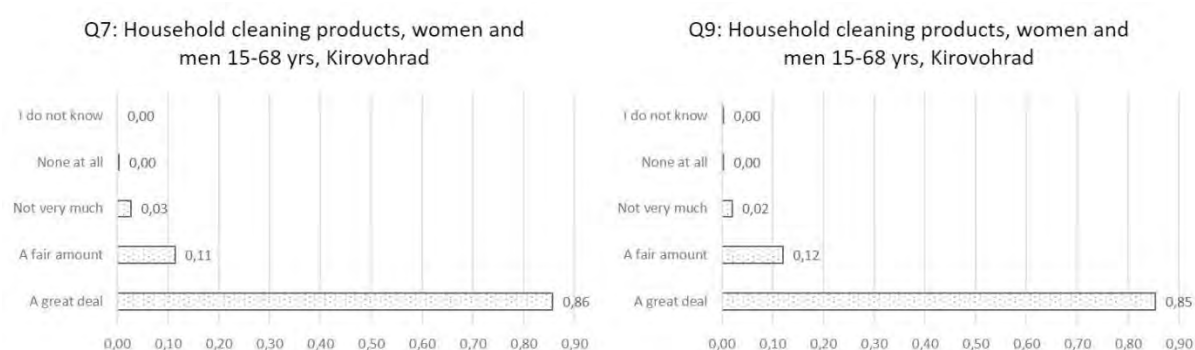
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Kirovohrad).



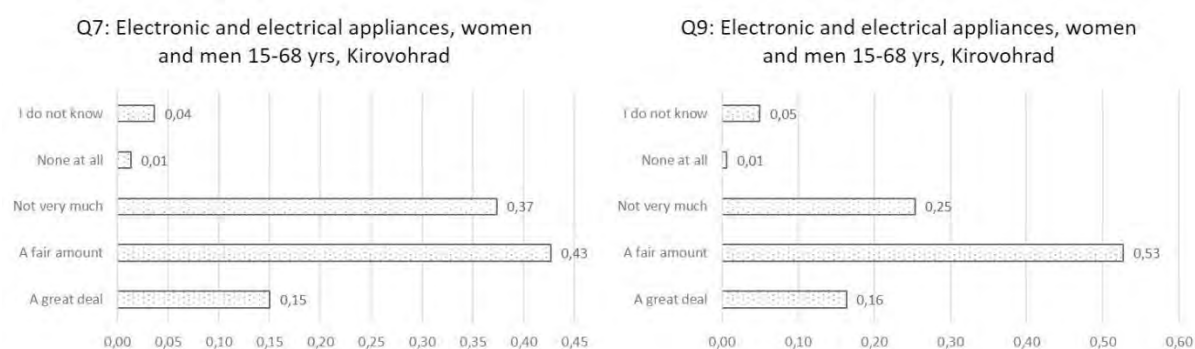
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Kirovohrad).



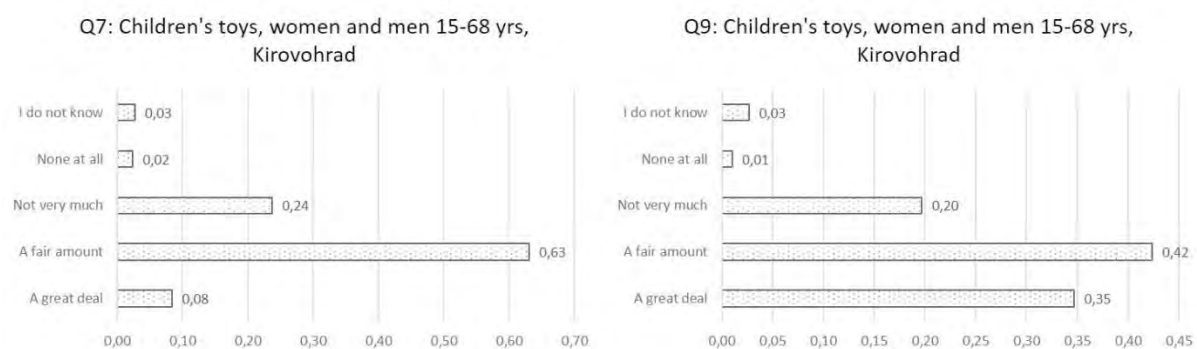
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products, and perfumes (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



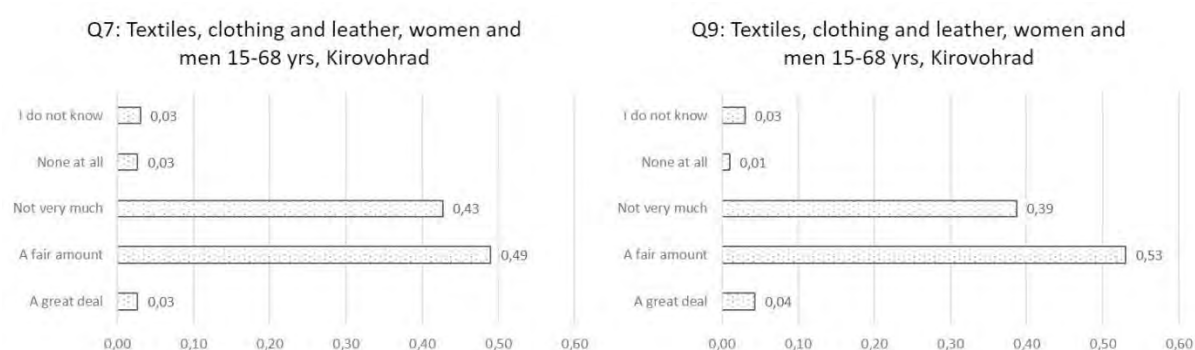
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products (right hand graph) (sample size: 300, Kirovohrad).



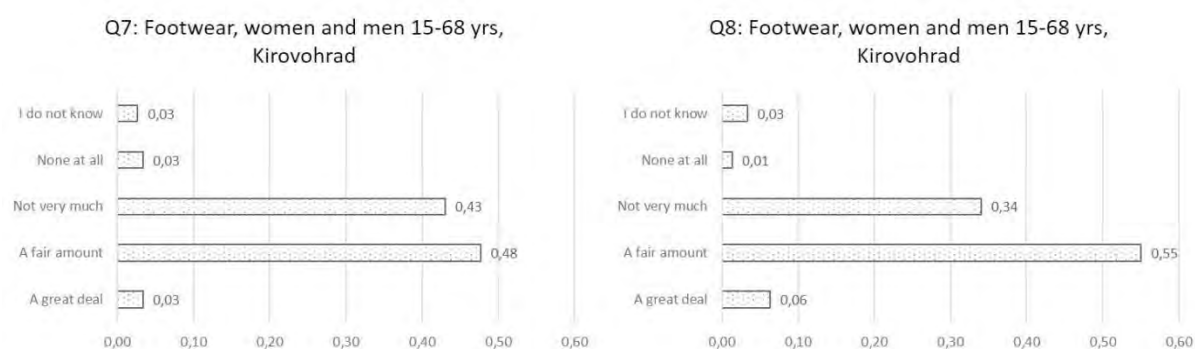
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



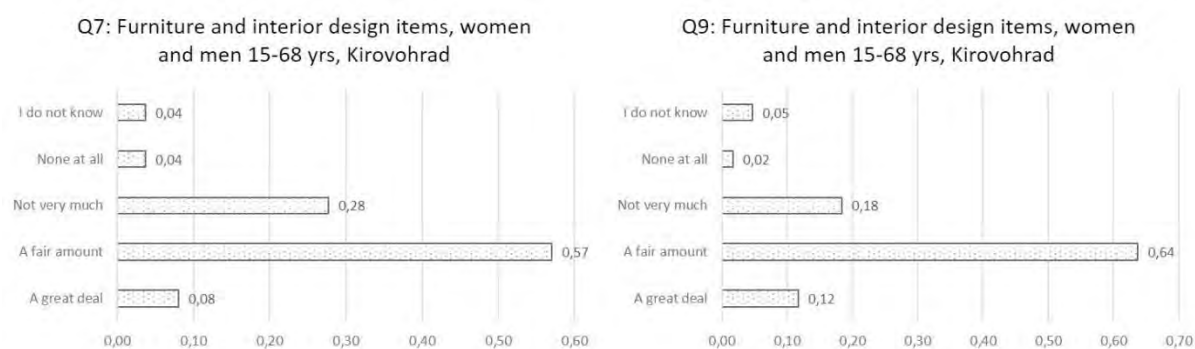
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



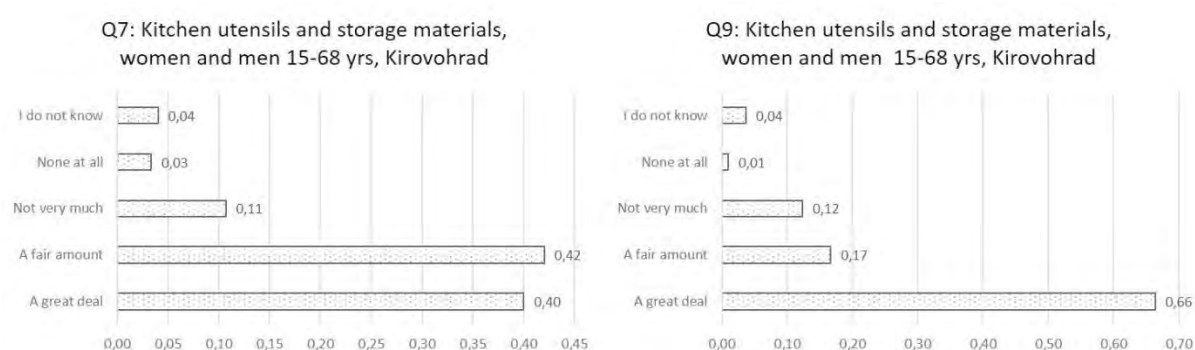
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



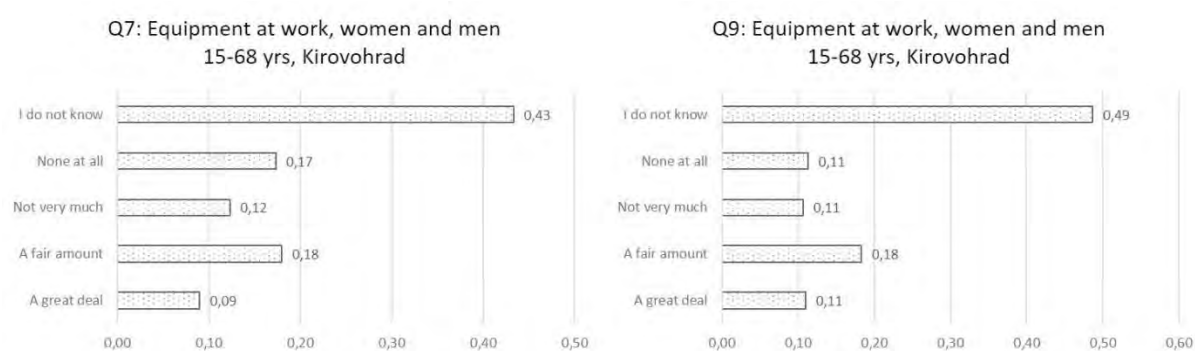
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 300, Kirovohrad).



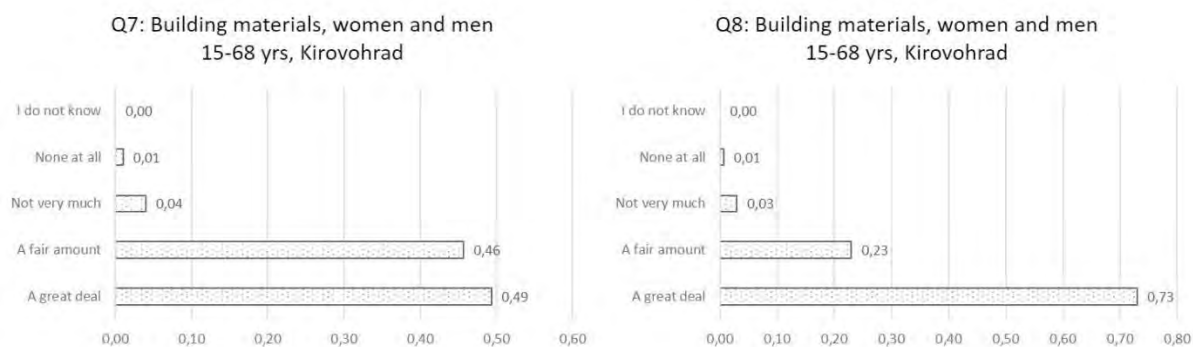
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



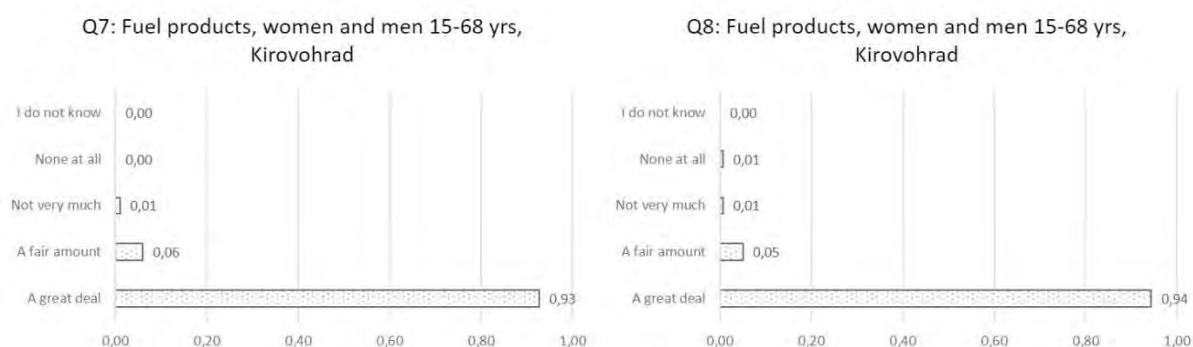
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



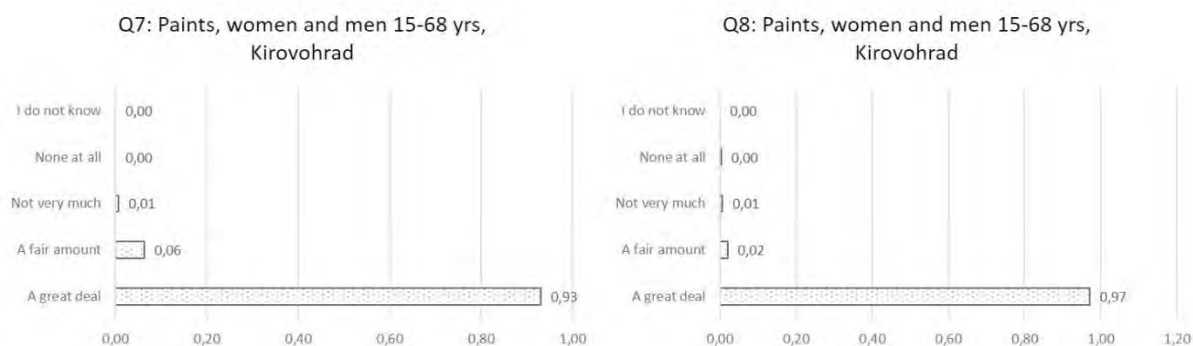
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



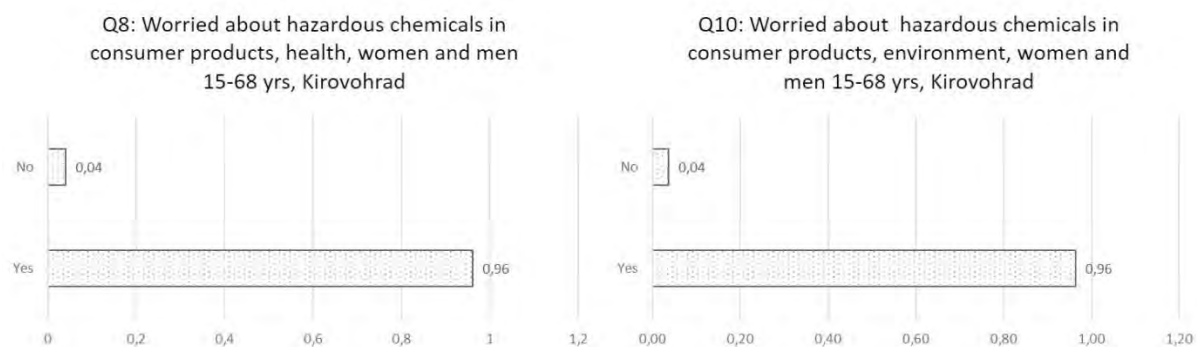
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



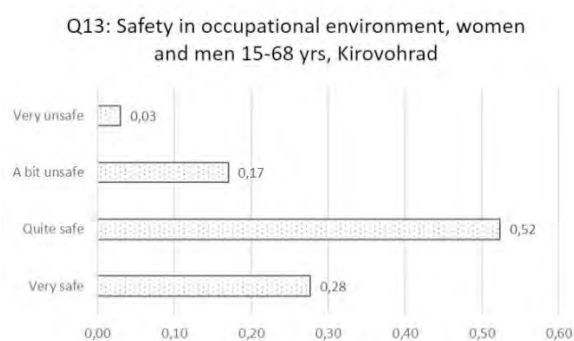
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



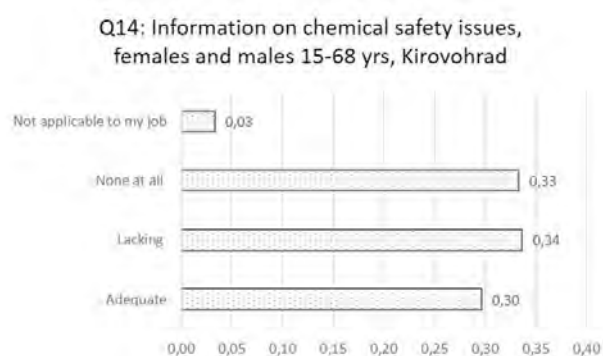
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Kirovohrad).



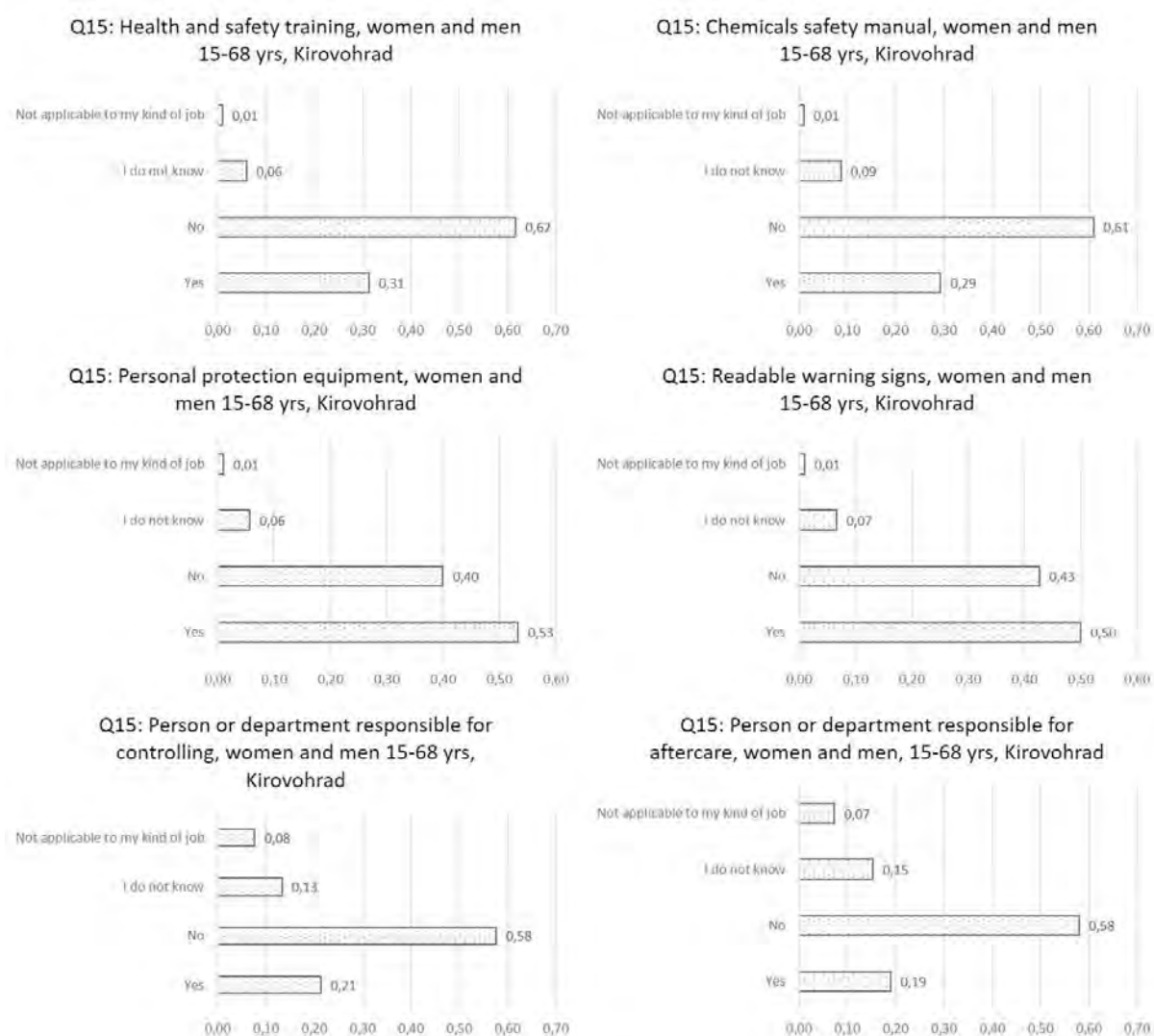
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Kirovohrad).



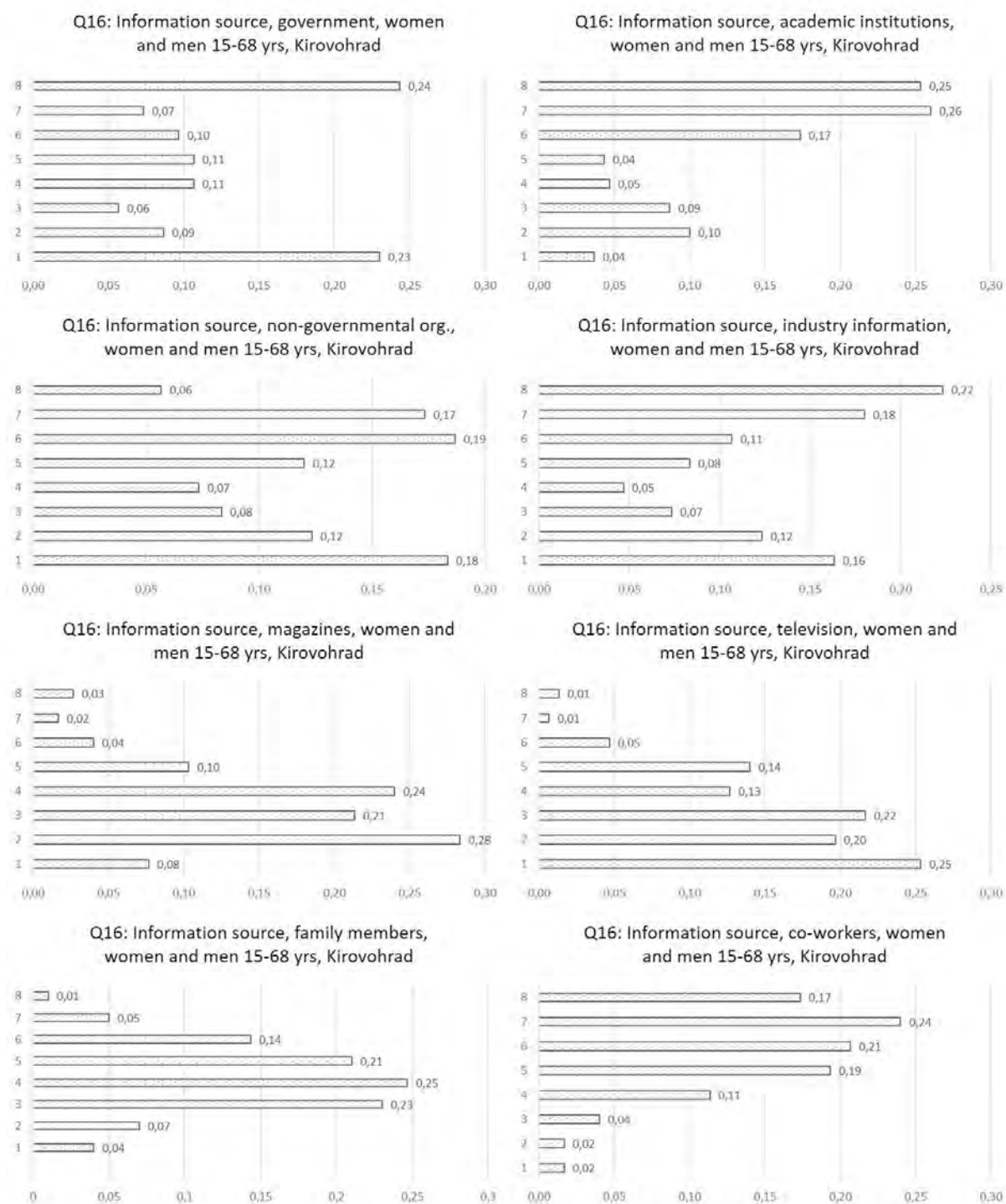
**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Kirovohrad).



**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Kirovohrad).

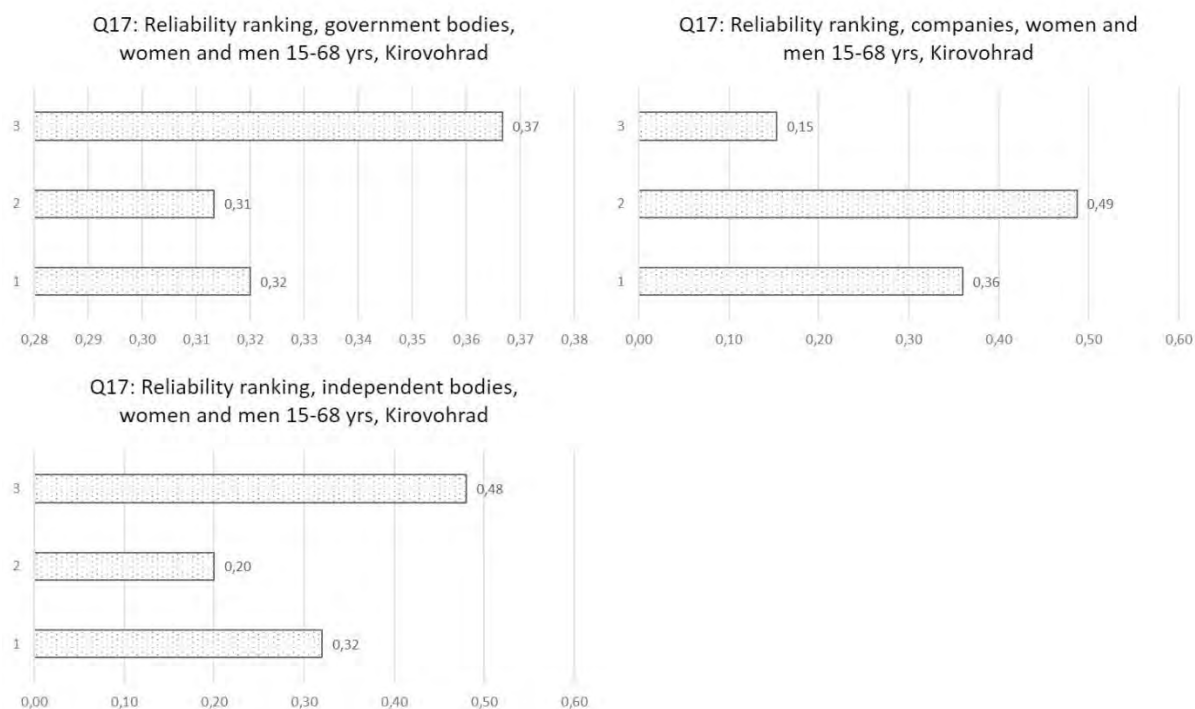


**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Kirovohrad).

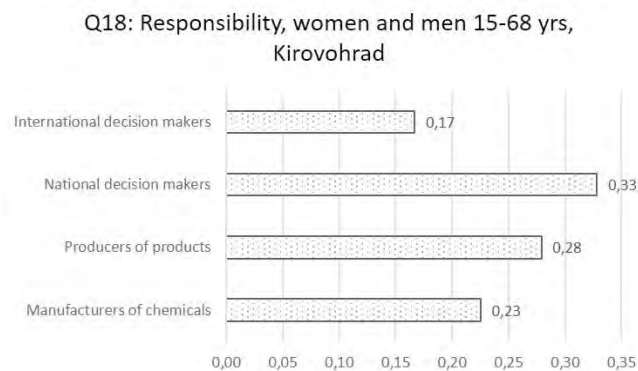


**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Kirovohrad). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.





**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, Kirovohrad). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

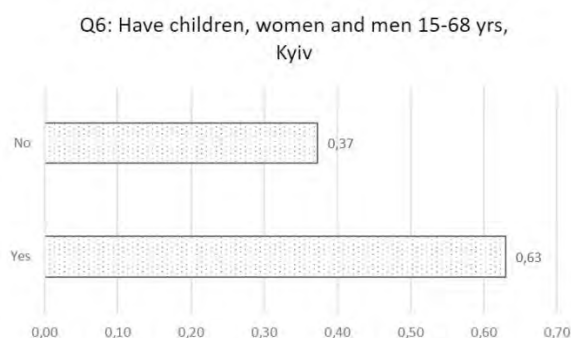


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Kirovohrad). The poll participants could pick several of the available choices.

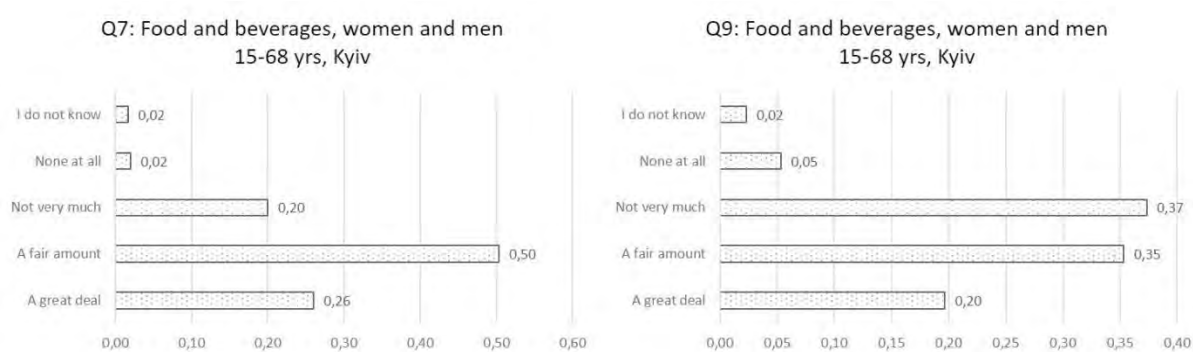
## Appendix M b)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.37 for the option “no” in Figure 1 implies that 37% of the poll respondents replied “no”; 0.63 that 63% of the poll respondents replied “yes”.

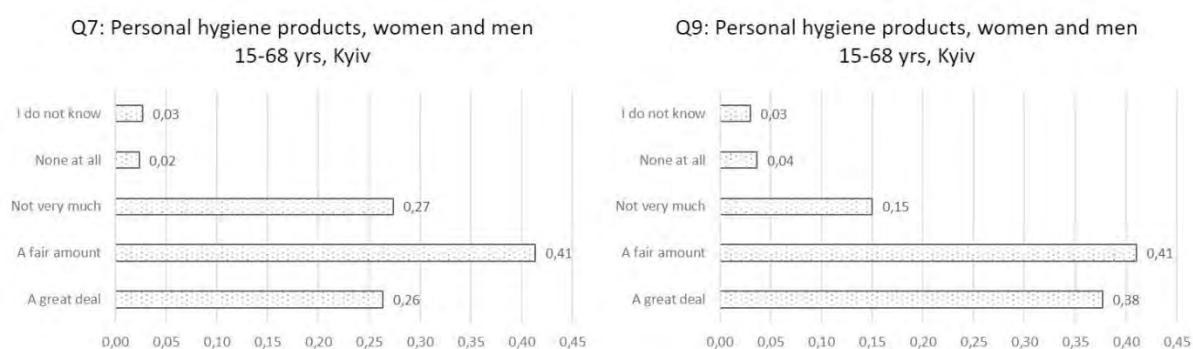
### Ukraine



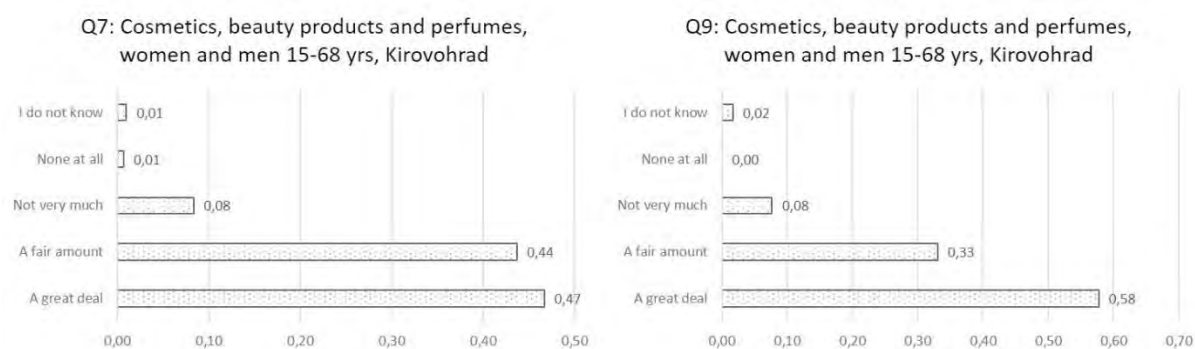
**Figure 1:** Share of poll participants with children or not (sample size: 300, Kyiv)



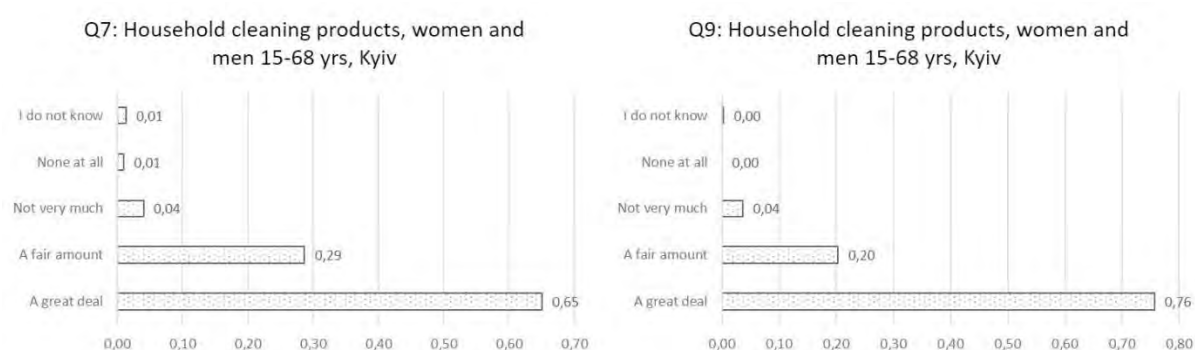
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Kyiv).



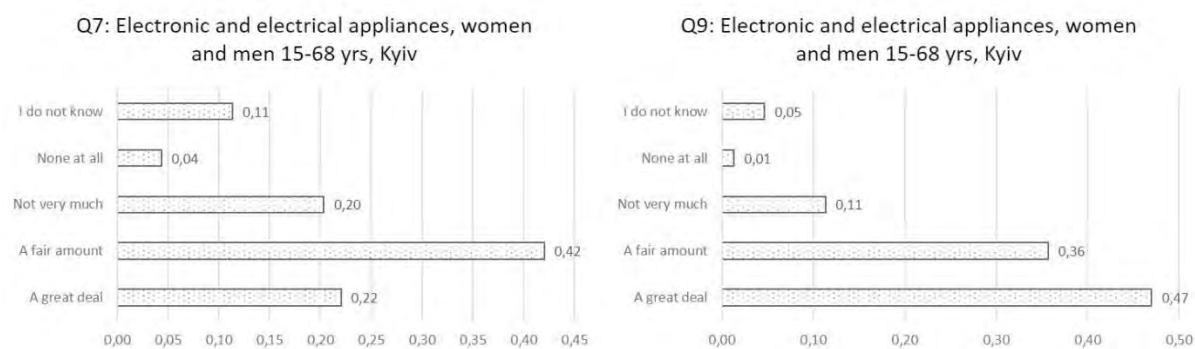
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Kyiv).



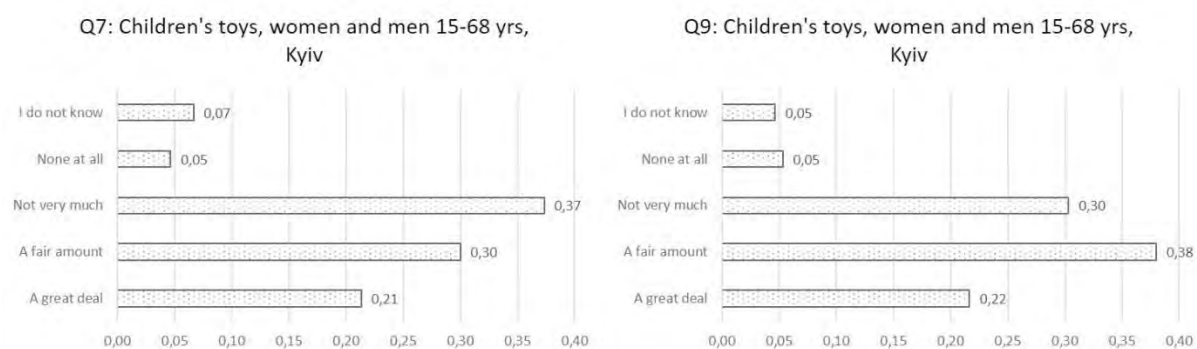
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products, and perfumes (right hand graph), share of poll participants (sample size: 300, Kyiv).



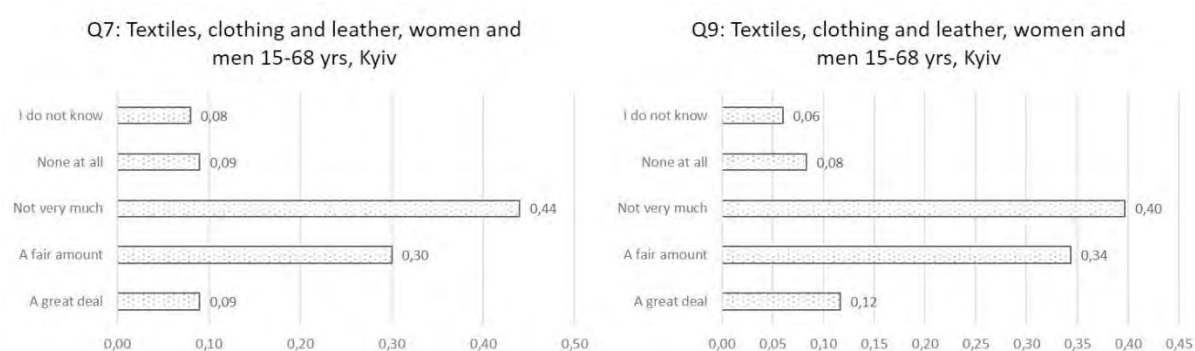
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products (right hand graph) (sample size: 300, Kyiv).



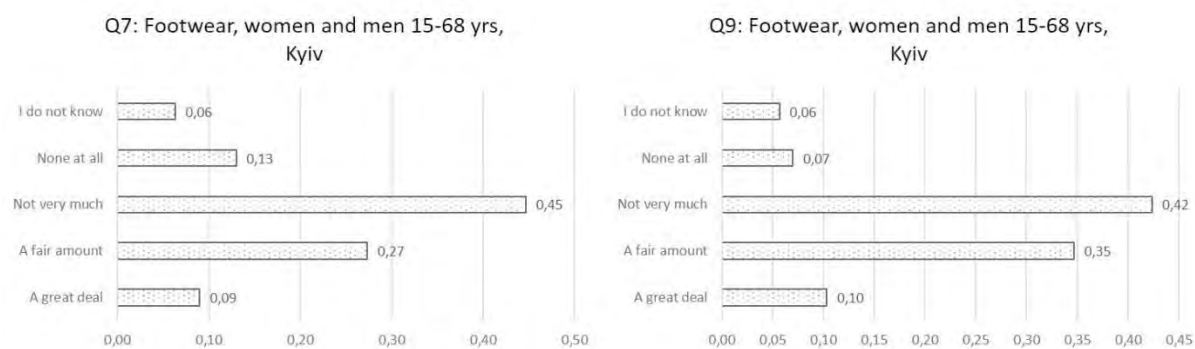
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Kyiv).



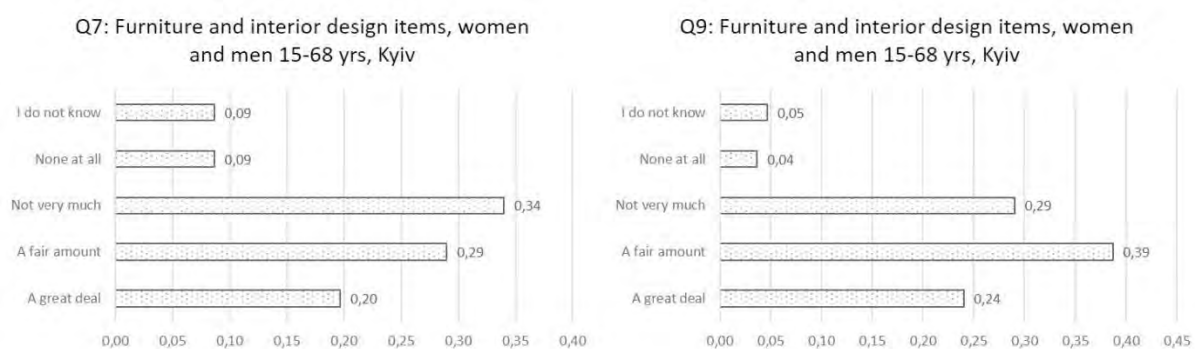
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Kyiv).



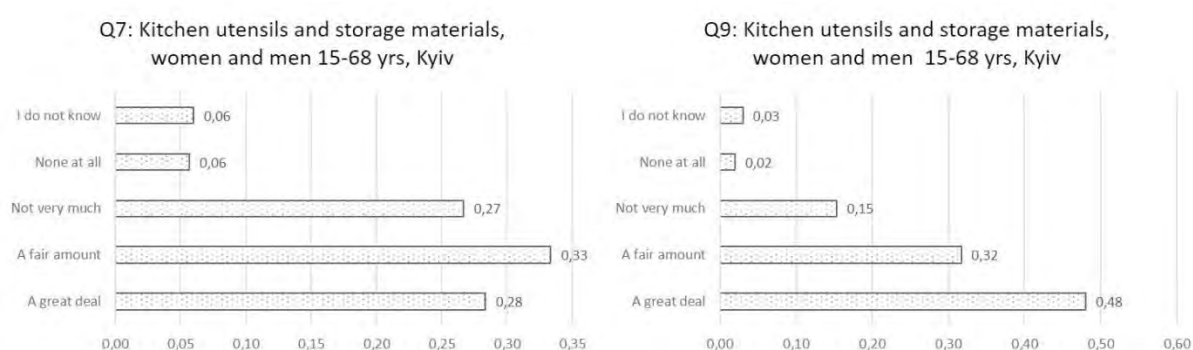
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Kyiv).



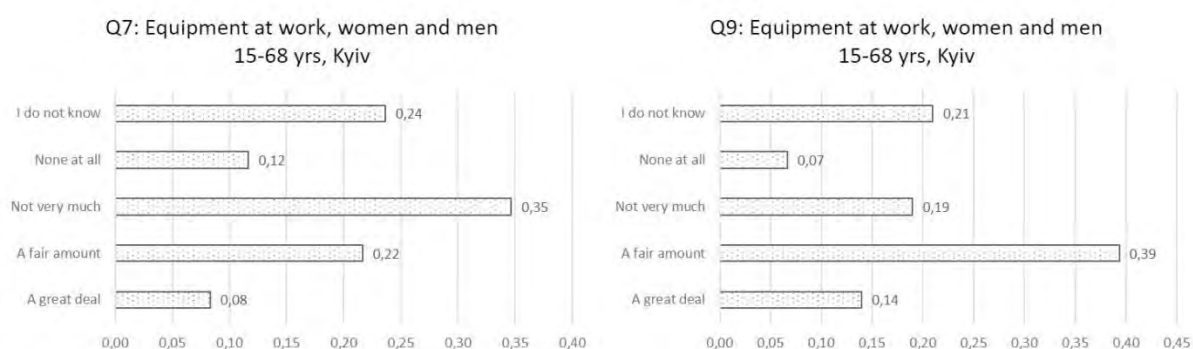
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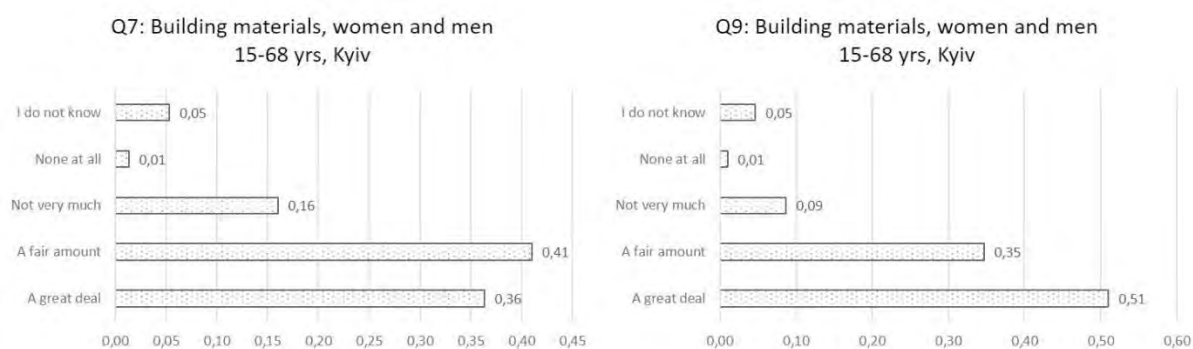
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Kyiv).



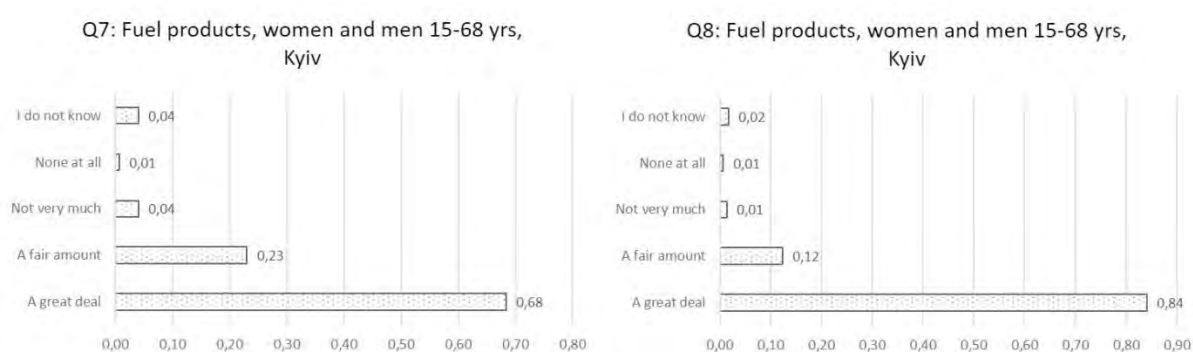
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Kyiv).



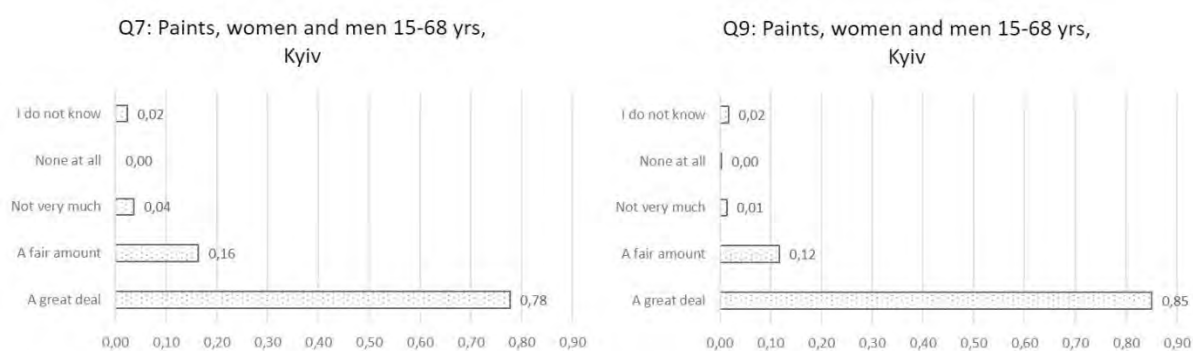
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Kyiv).



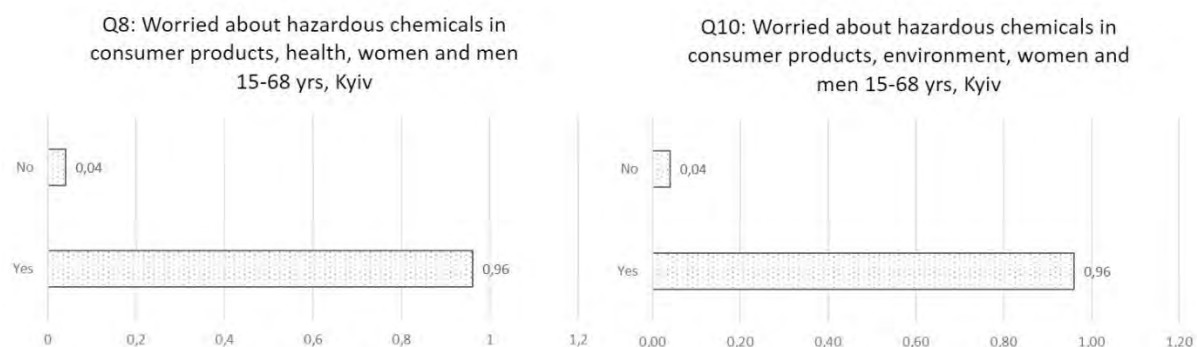
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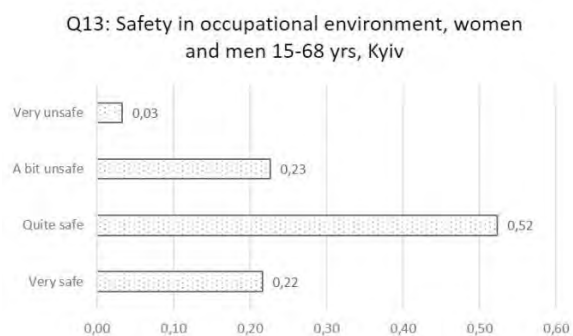
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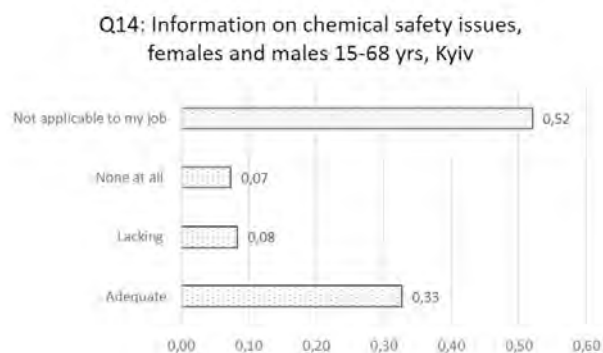
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Kyiv).



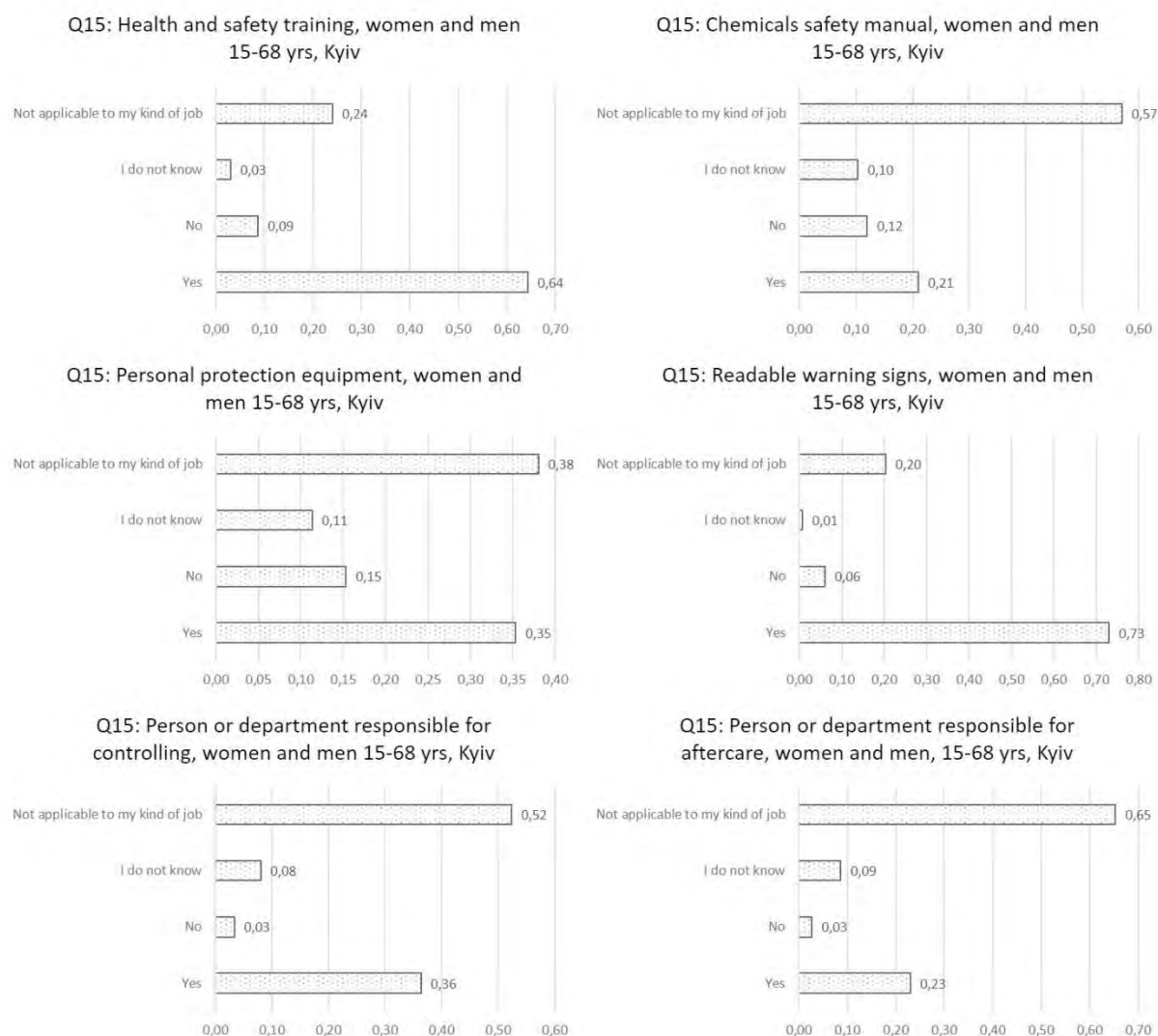
**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Kyiv).



**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Kyiv).

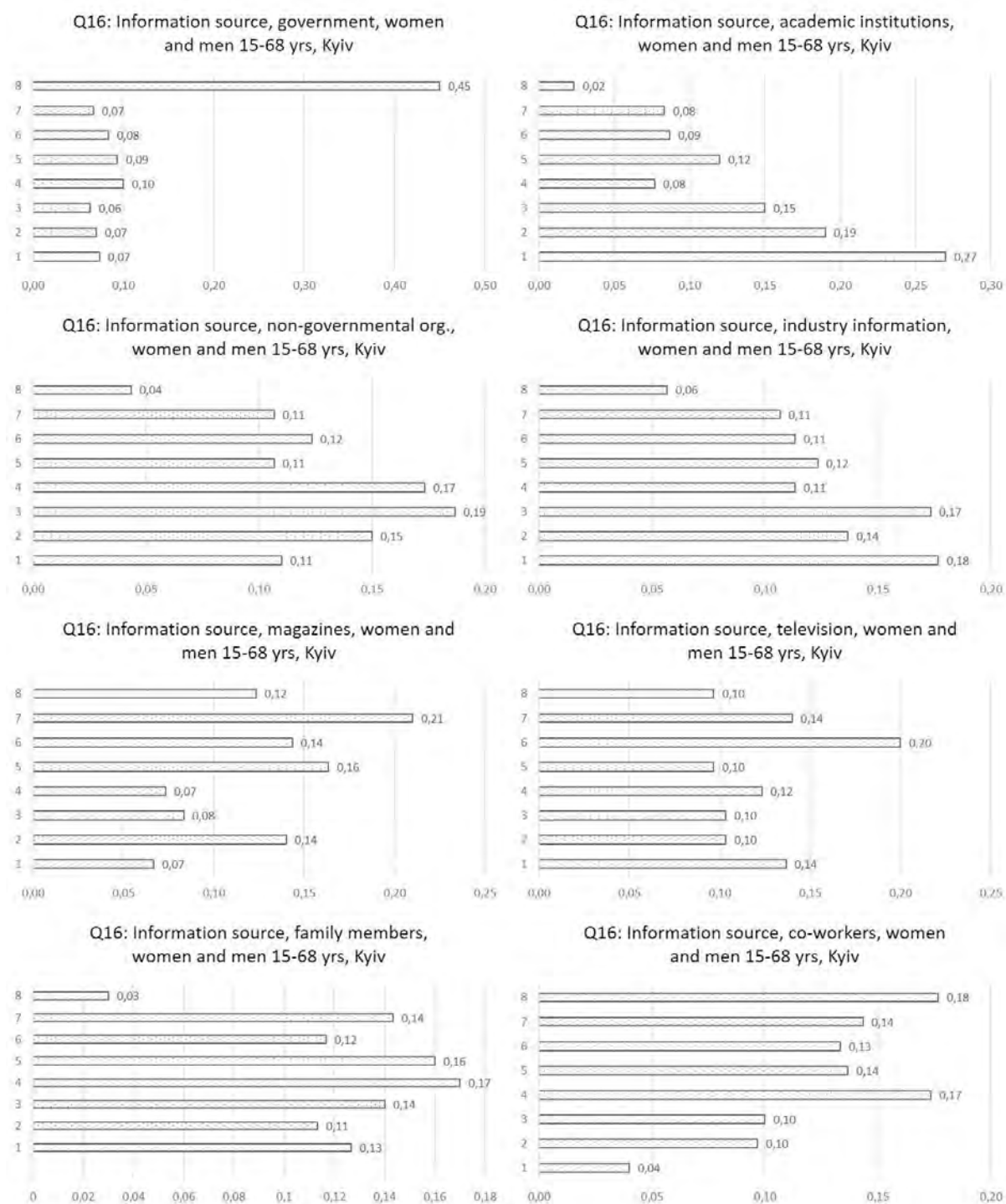


**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Kyiv).

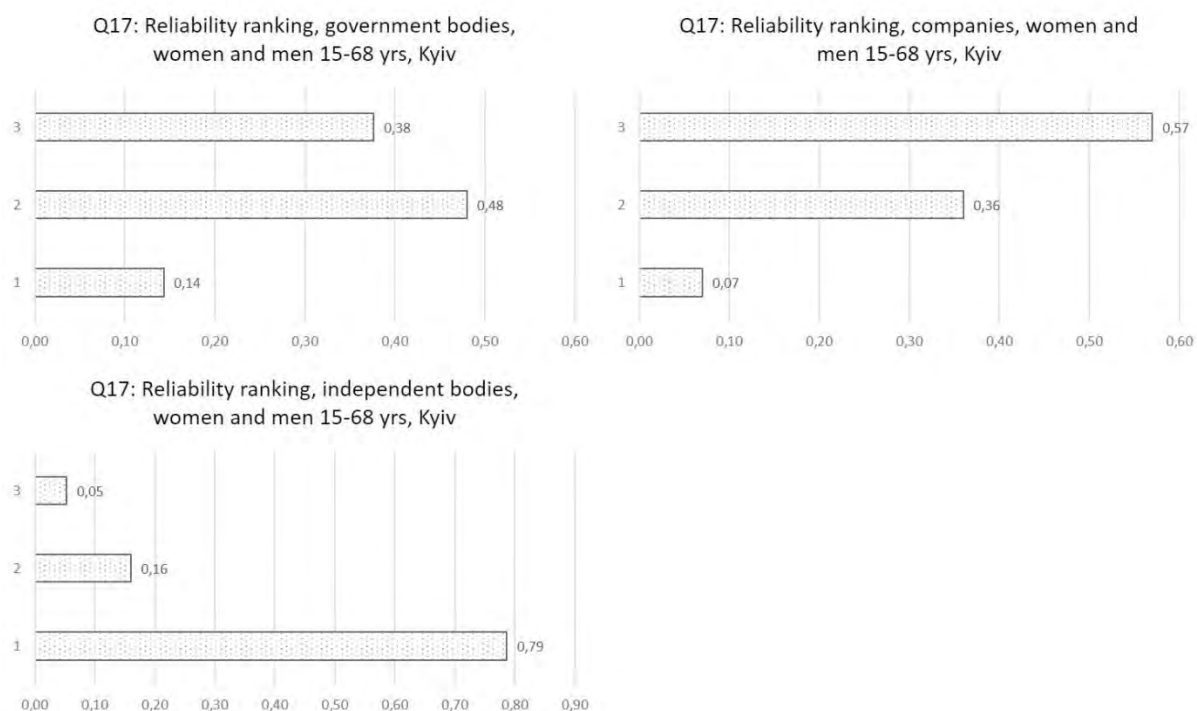


**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Kyiv).

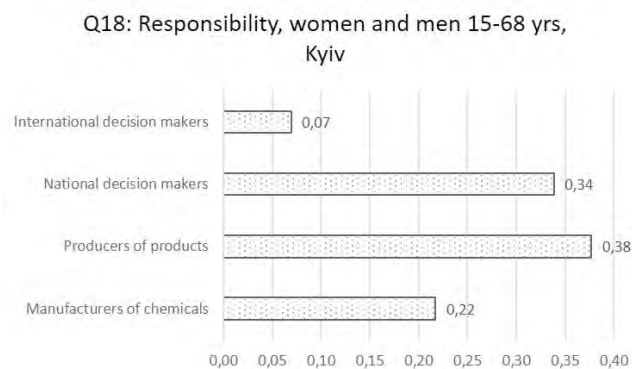




**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Kyiv). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, Kyiv). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

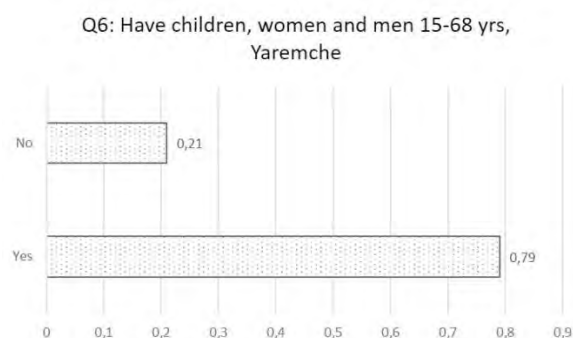


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Kyiv). The poll participants could pick several of the available choices.

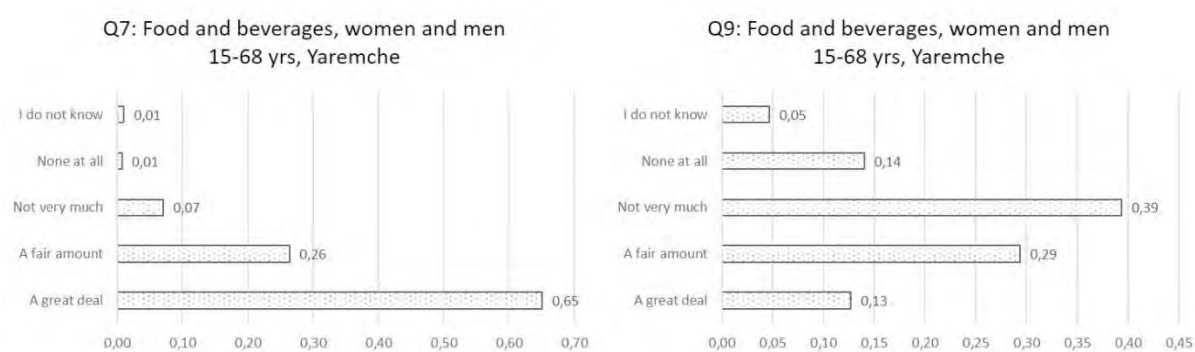
## Appendix M c)

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.21 for the option “no” in Figure 1 implies that 21% of the poll respondents replied “no”; 0.79 that 79% of the poll respondents replied “yes”.

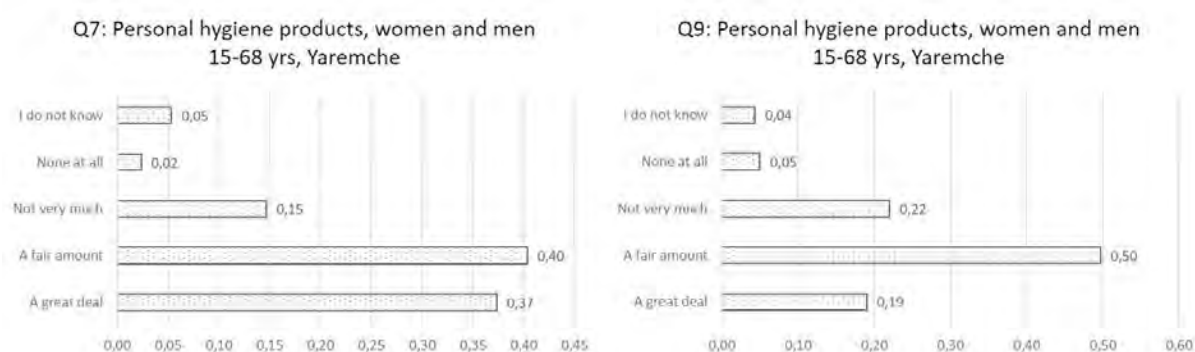
### Ukraine



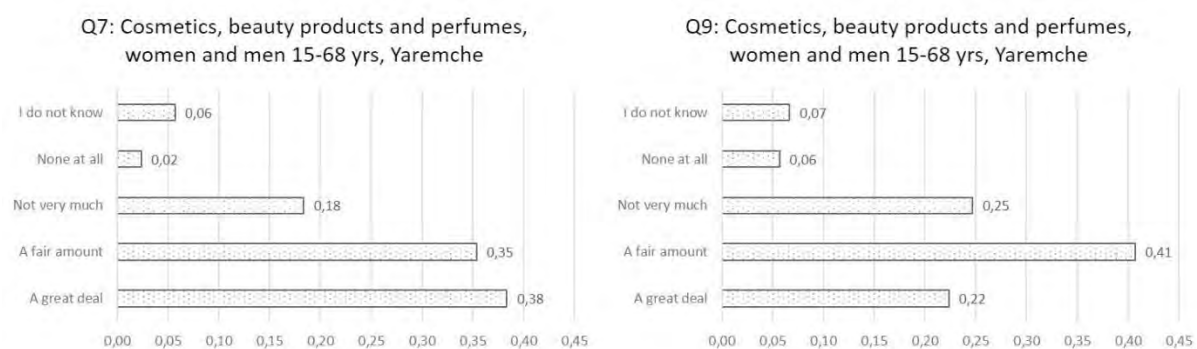
**Figure 1:** Share of poll participants with children or not (sample size: 300, Yaremche)



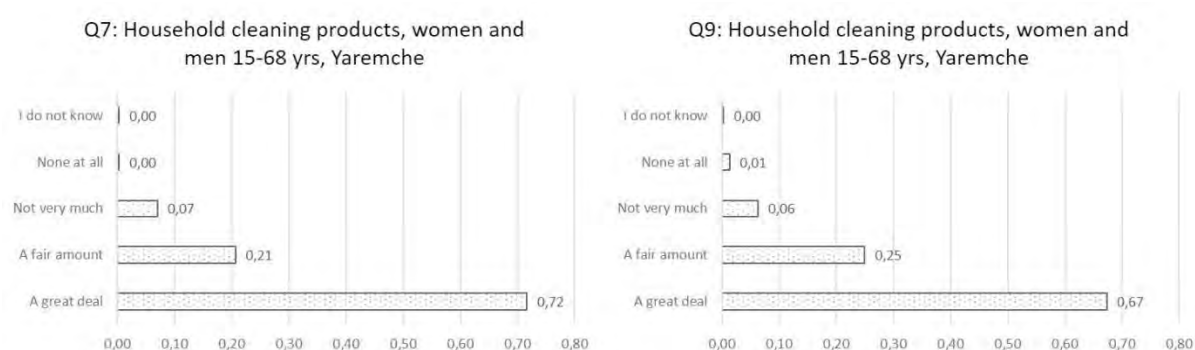
**Figure 2:** Rating of potential magnitude of exposure to hazardous chemicals to health from food and beverages (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from food and beverages (right hand panel), share of poll participants (sample size: 300, Yaremche).



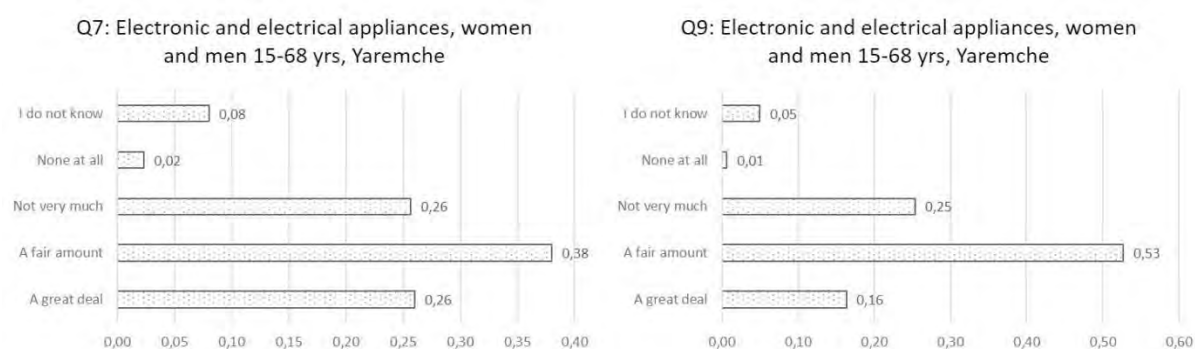
**Figure 3:** Rating of potential magnitude of exposure to hazardous chemicals to health from personal hygiene products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from personal hygiene products (right hand panel), share of poll participants (sample size: 300, Yaremche).



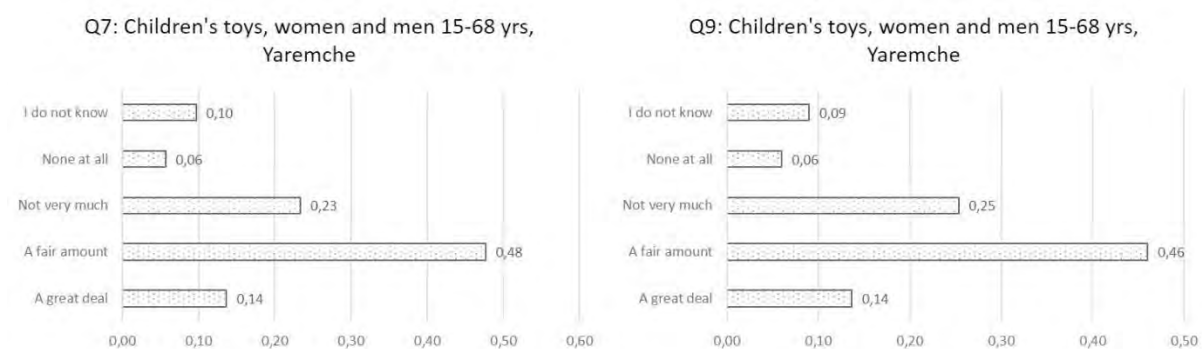
**Figure 4:** Rating of potential magnitude of exposure to hazardous chemicals to health from cosmetics, beauty products, and perfumes (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from cosmetics, beauty products, and perfumes (right hand graph), share of poll participants (sample size: 300, Yaremche).



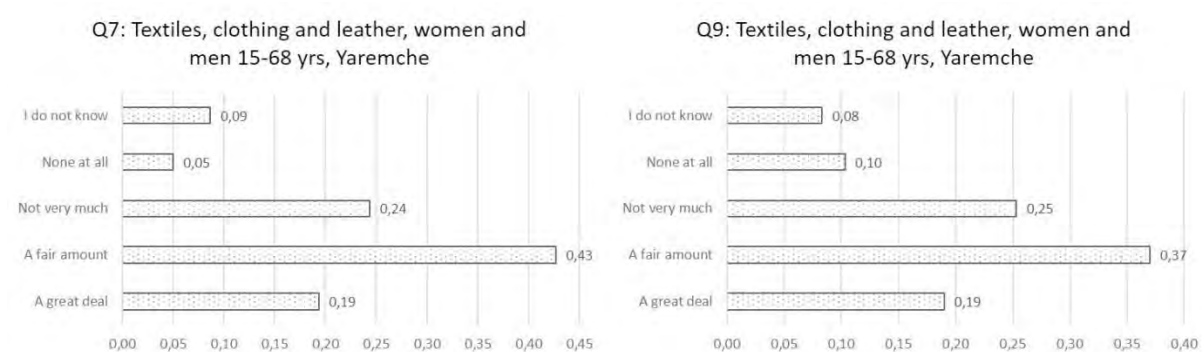
**Figure 5:** Rating of potential magnitude of exposure to hazardous chemicals to health from household cleaning products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from household cleaning products (right hand graph) (sample size: 300, Yaremche).



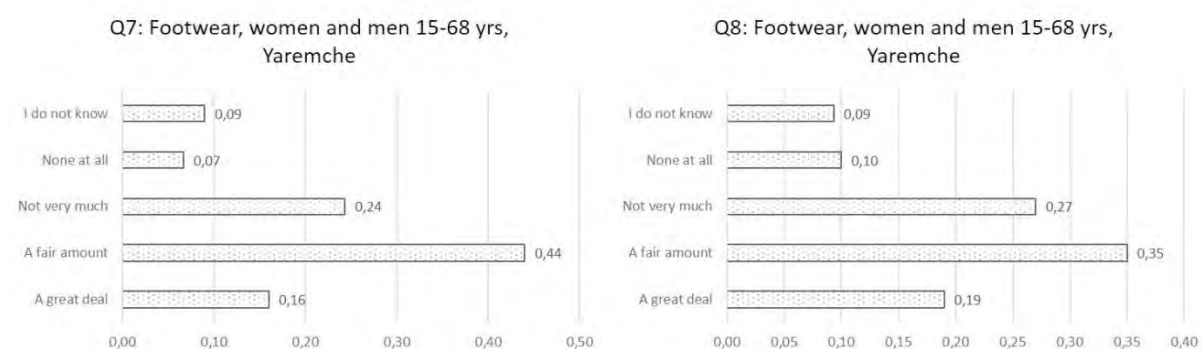
**Figure 6:** Rating of potential magnitude of exposure to hazardous chemicals to health from electronic and electric appliances (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from electronic and electric appliances (right hand graph), share of poll participants (sample size: 300, Yaremche).



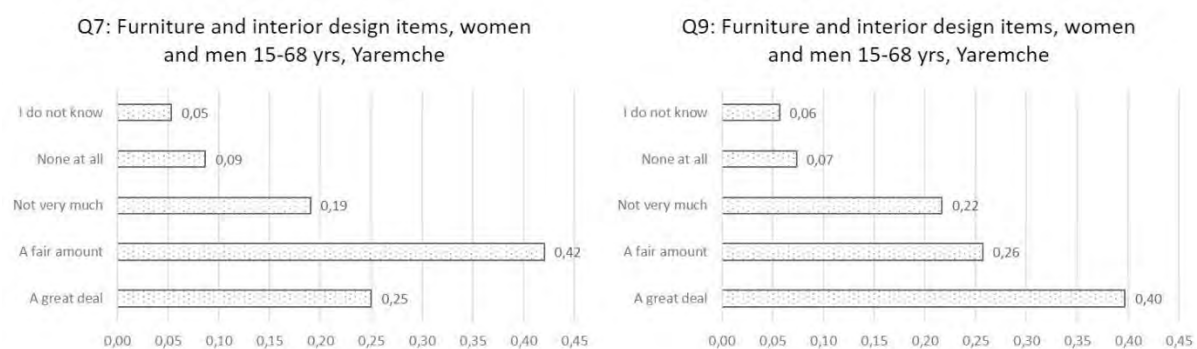
**Figure 7:** Rating of potential magnitude of exposure to hazardous chemicals to health from children's toys (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from children's toys (right hand graph), share of poll participants (sample size: 300, Yaremche).



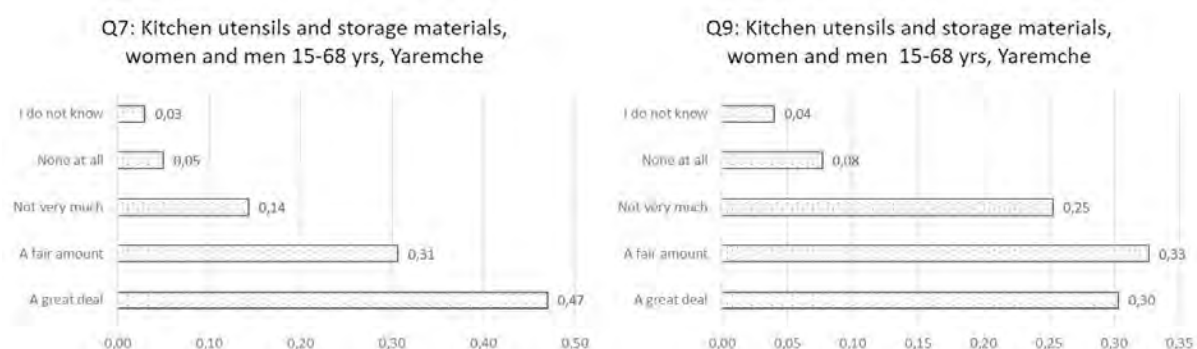
**Figure 8:** Rating of potential magnitude of exposure to hazardous chemicals to health from textiles, clothing and leather (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from textiles, clothing and leather (right hand graph), share of poll participants (sample size: 300, Yaremche).



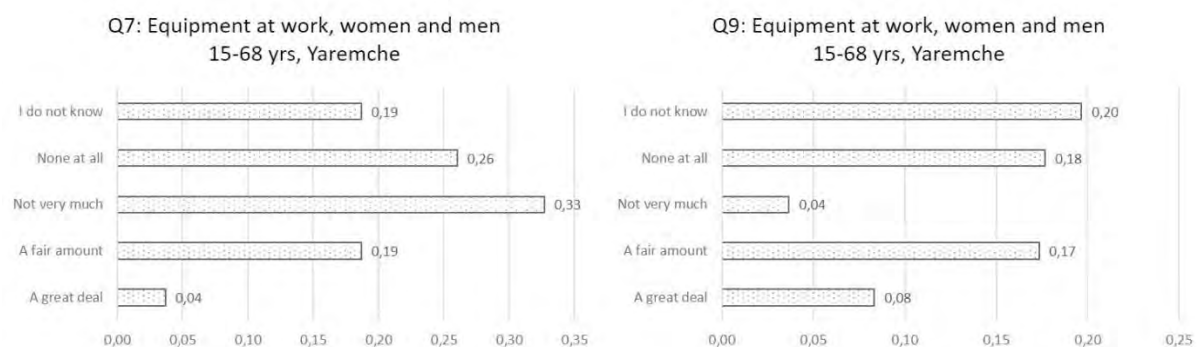
**Figure 9:** Rating of potential magnitude of exposure to hazardous chemicals to health from footwear (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from footwear, share of poll participants (right hand graph) (sample size: 300, Yaremche).



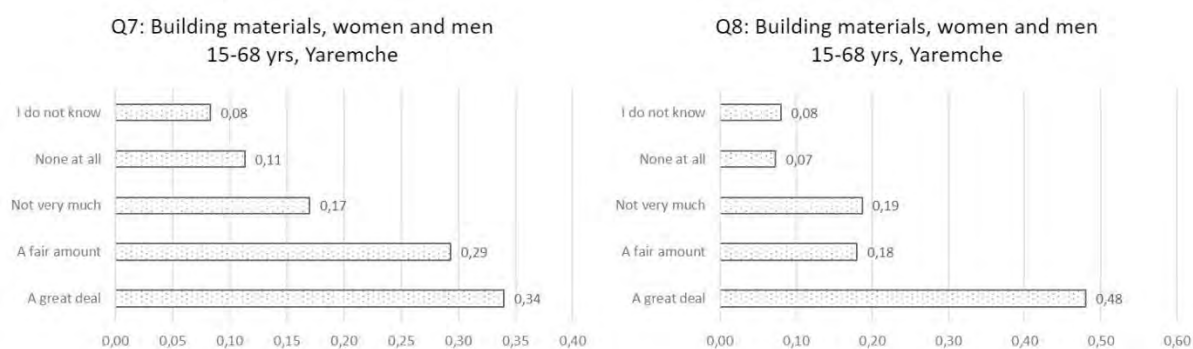
**Figure 10:** Rating of potential magnitude of exposure to hazardous chemicals to health from furniture and interior design items (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from furniture and interior design items (right hand graph), share of poll participants (sample size: 300, Yaremche).



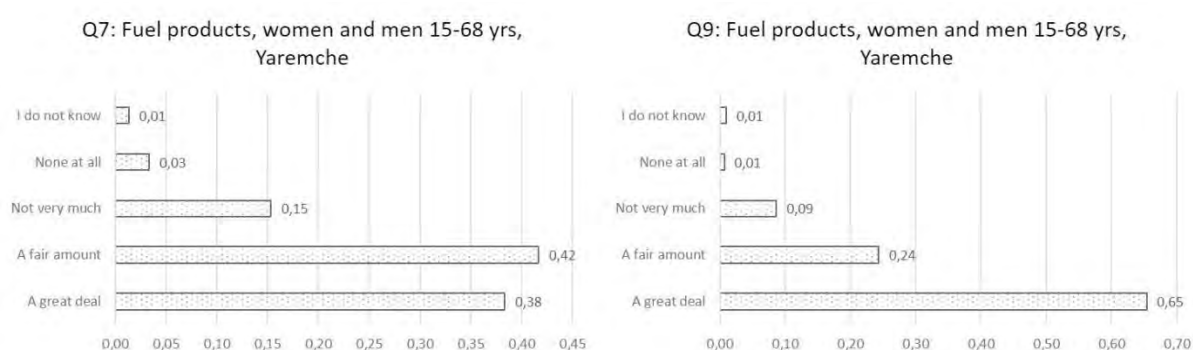
**Figure 11:** Rating of potential magnitude of exposure to hazardous chemicals to health from kitchen utensils and food storage materials (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from kitchen utensils and food storage materials (right hand graph), share of poll participants (sample size: 300, Yaremche).



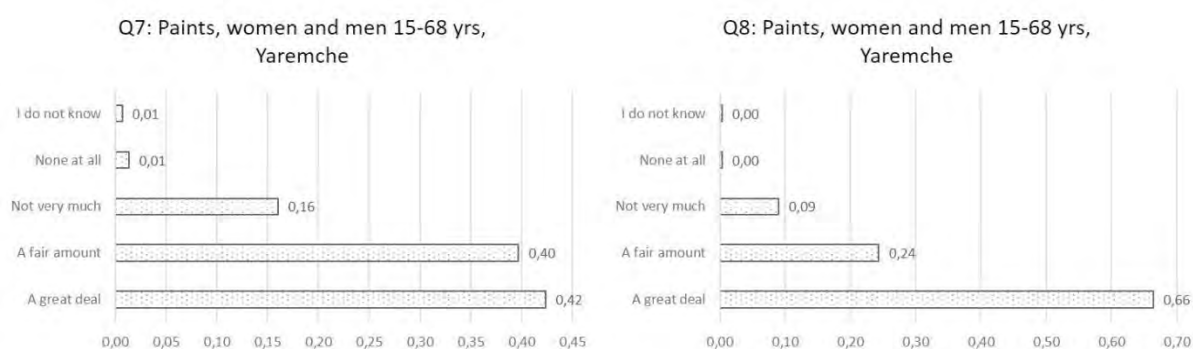
**Figure 12:** Rating of potential magnitude of exposure to hazardous chemicals to health from equipment at work (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from equipment at work (right hand graph), share of poll participants (sample size: 300, Yaremche).



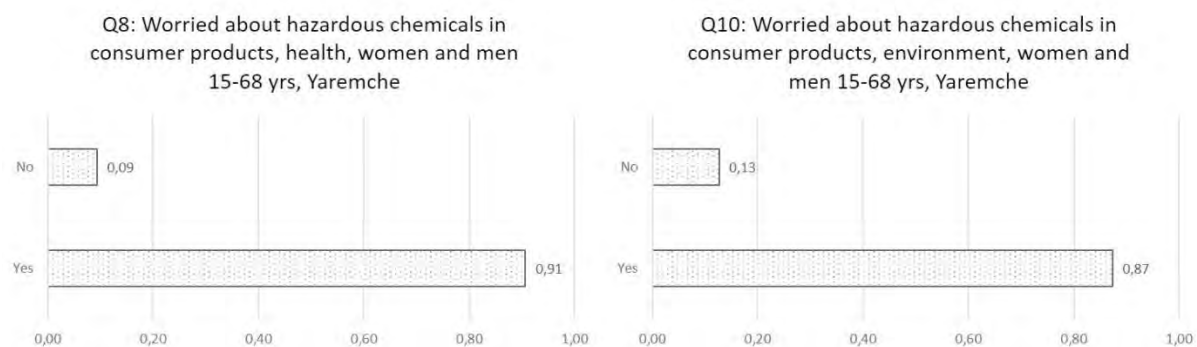
**Figure 13:** Rating of potential magnitude of exposure to hazardous chemicals to health from building material (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building materials (right hand graph), share of poll participants (sample size: 300, Yaremche).



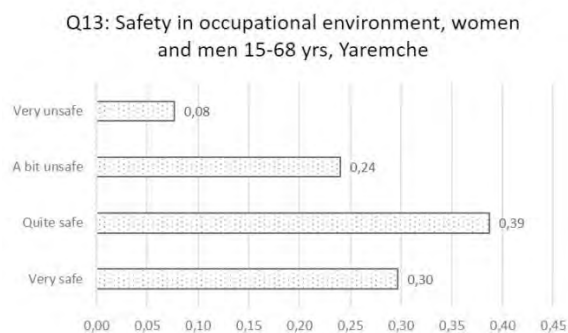
**Figure 14:** Rating of potential magnitude of exposure to hazardous chemicals to health from fuel products (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from building products (right hand graph), share of poll participants (sample size: 300, Yaremche).



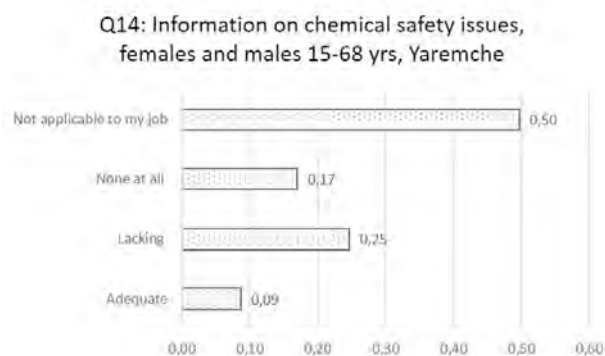
**Figure 15:** Rating of potential magnitude of exposure to hazardous chemicals to health from paints (left hand graph), and potential magnitude of exposure for the environment to hazardous chemicals from paints (right hand graph), share of poll participants (sample size: 300, Yaremche).



**Figure 16:** Share of poll participants worried about hazardous chemicals to health (left graph) and environment (right graph) from consumer products (sample size: 300, Yaremche).

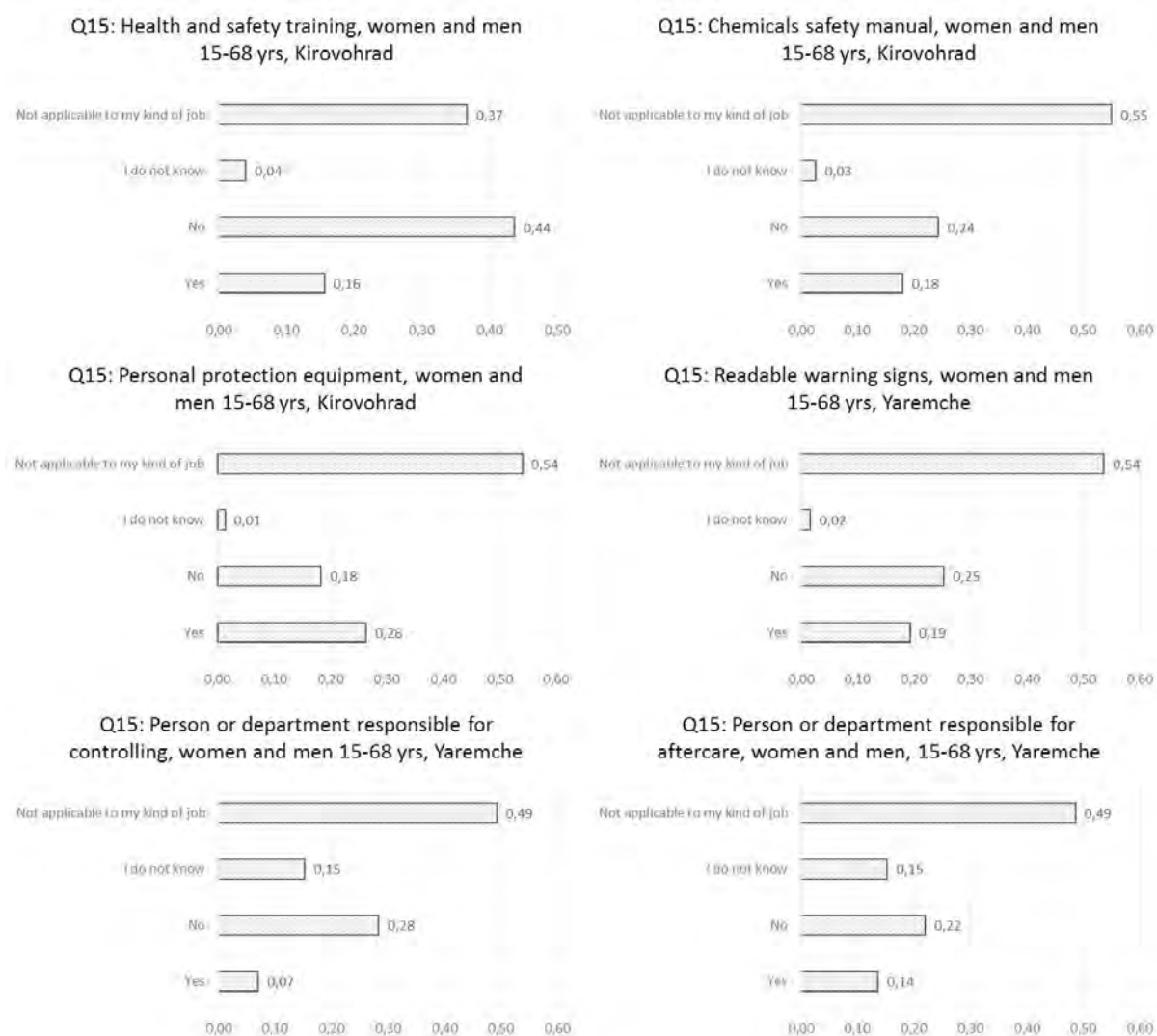


**Figure 17:** Perceived safety at workplace, share of poll participants (sample size: 300, Yaremche).

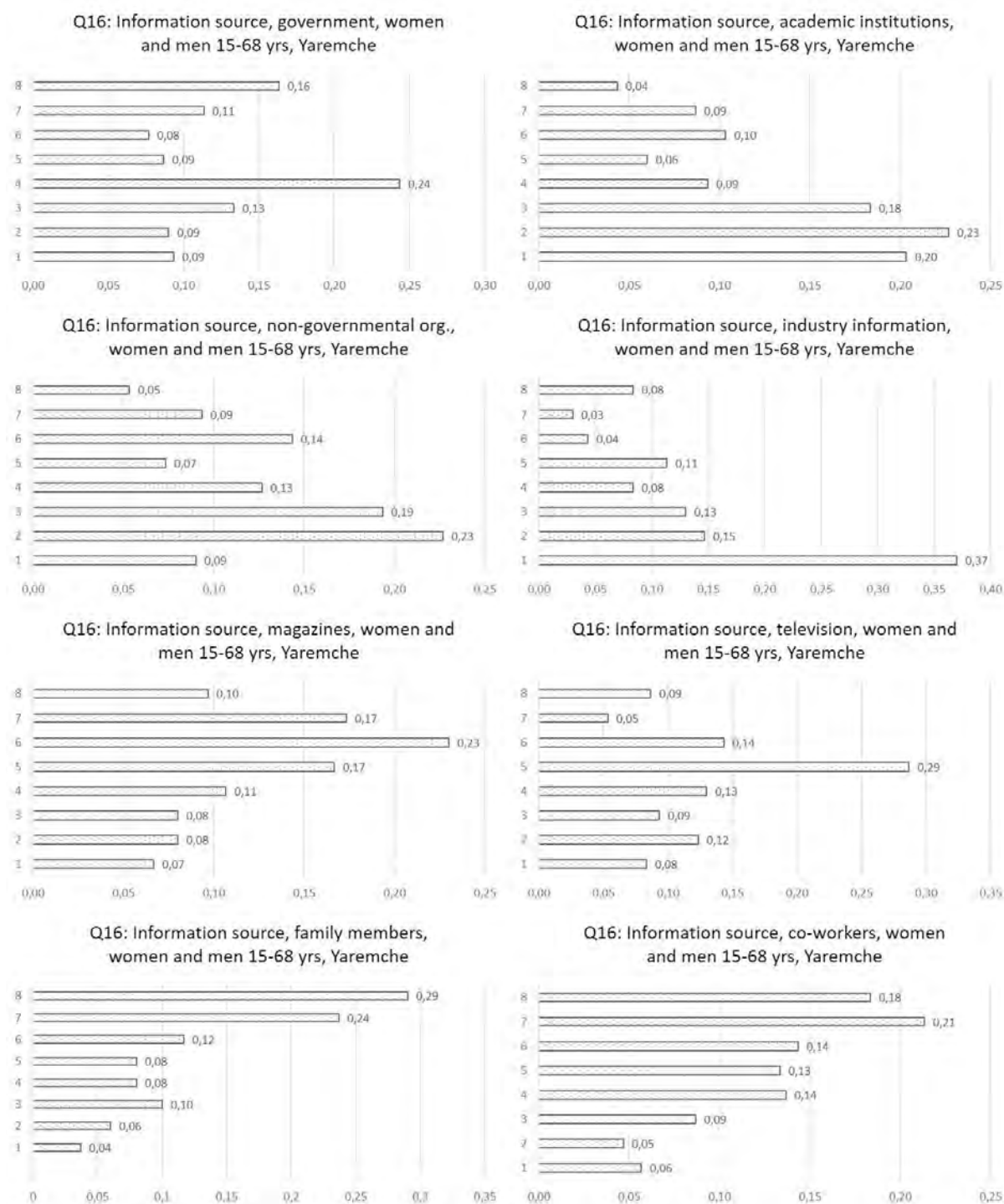


**Figure 18:** Share of poll participants with perceived access to information on chemical safety in the occupational environment (sample size: 300, Yaremche).

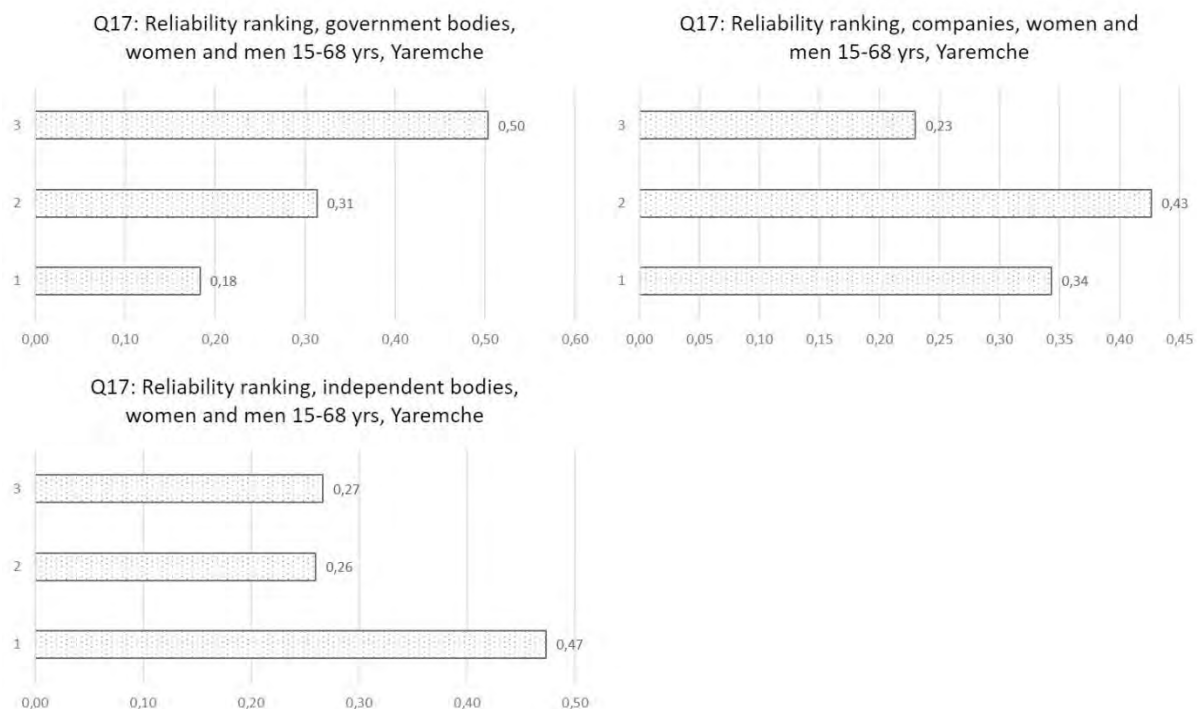




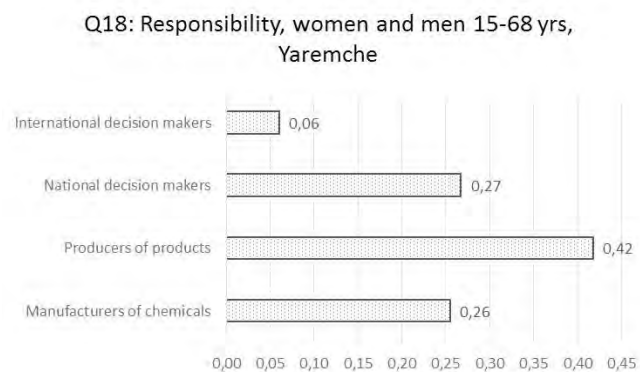
**Figure 19:** Health and safety training (upper left hand graph), chemical safety manual (upper right hand graph) at the workplace, personal protection equipment (middle left graph), readable warning signs in dangerous places (middle right graph), person or department responsible for controlling chemical safety (lower left graph) and person or department responsible for aftercare of employees exposed to harmful chemicals, share of poll participants (sample size: 300, Yaremche).



**Figure 20:** Rating (1-8, where 1 is best) of sources of information about chemicals in consumer products, share of poll participants (sample size: 300, Yaremche). The uppermost left graph shows government authorities, the uppermost right graph academic institutions, the middle top left graph non-governmental organizations, the middle right top graph industry, the left lower middle graph magazines, the right lower graph television, the lowermost left graph family members, and the lowermost right graph co-workers.



**Figure 21:** Ranking (1-3, where 1 is best) of reliability sources of verification that consumer products are free from chemicals harmful to health and environment, share of poll participants (sample size: 300, Yaremche). The upper left graph shows government competent authorities, the upper right graph companies, and the lower graph independent bodies, such as academic institutions and non-governmental organizations.

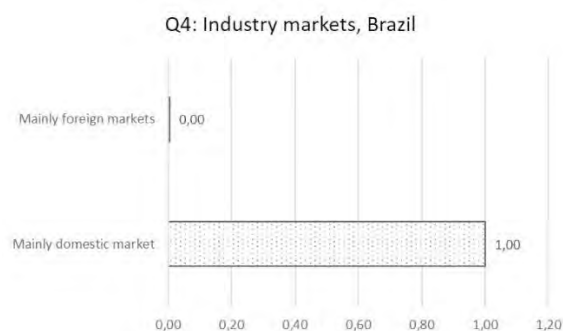


**Figure 22:** Opinion on responsibility for ensuring consumer safety with respect to chemicals in consumer product, share of replies distributed on manufacturers of chemicals, producer of products, national decision makers, and international decision makers (sample size: 300, Yaremche). The poll participants could pick several of the available choices.

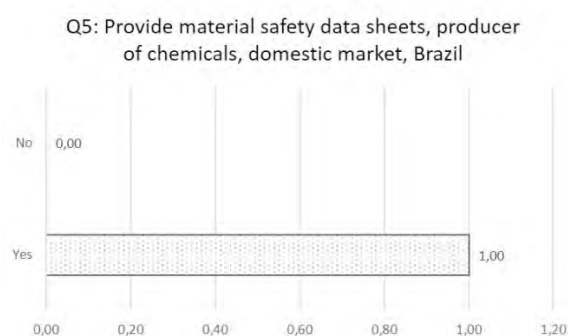
## Appendix N

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.00 for the option "mainly foreign markets" in Figure 1 implies that 0% of the poll respondents picked this option; 1.00 that 100% picked the option "mainly domestic market".

### Brazil



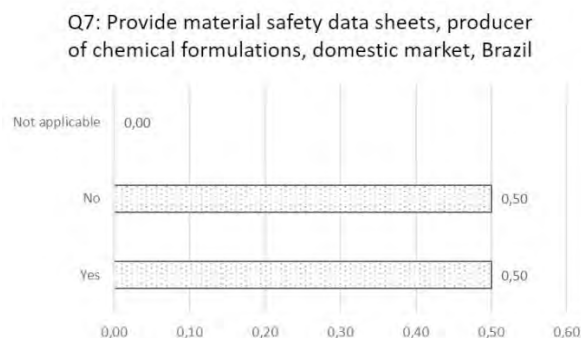
**Figure 1:** Share of participating Brazilian companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 3, Brazil).



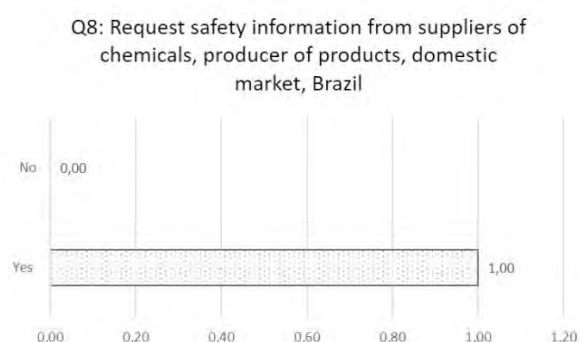
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 1, Brazil).



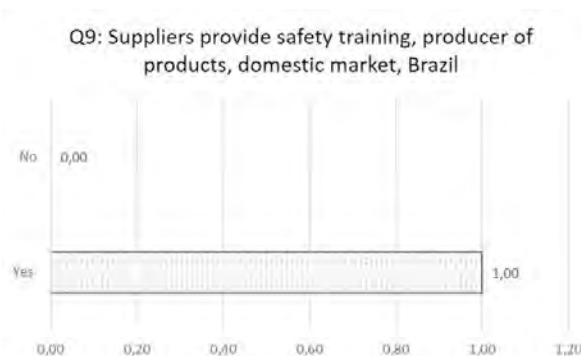
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 1, Brazil).



**Figure 3:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 2, Brazil).



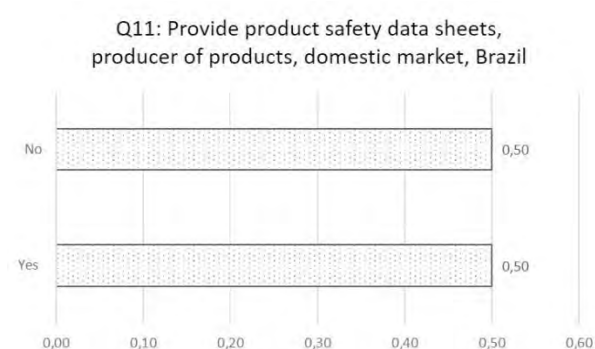
**Figure 4:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 2, Brazil).



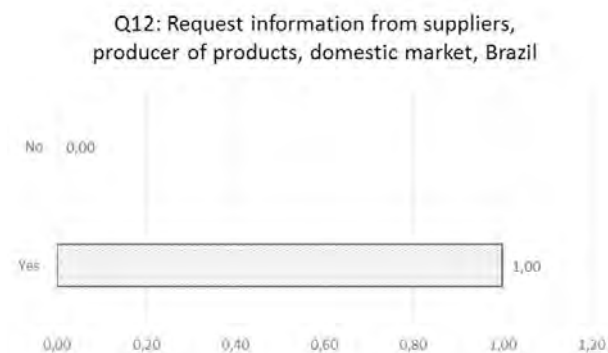
**Figure 5:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The graph shows the share for companies with a substantial proportion of the annual turnover (>50%) from the domestic market (sample size: 2, Brazil).



**Figure 6:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 2, Brazil).



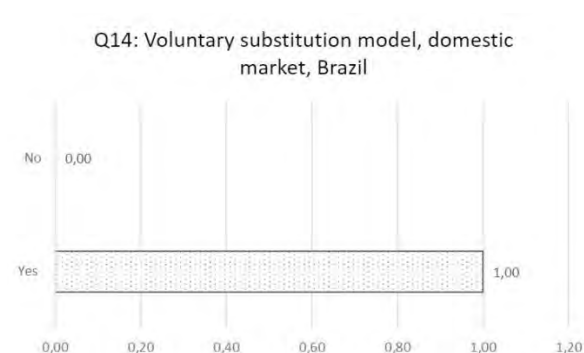
**Figure 7:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 2, Brazil).



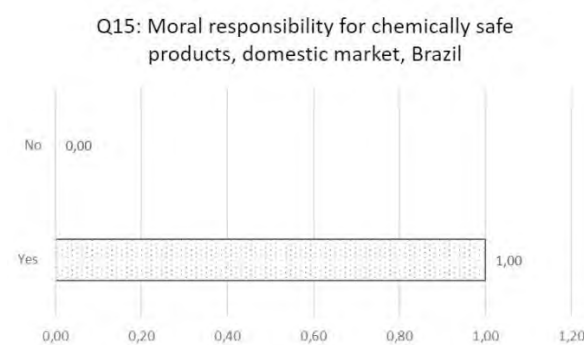
**Figure 8:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 2, Brazil).



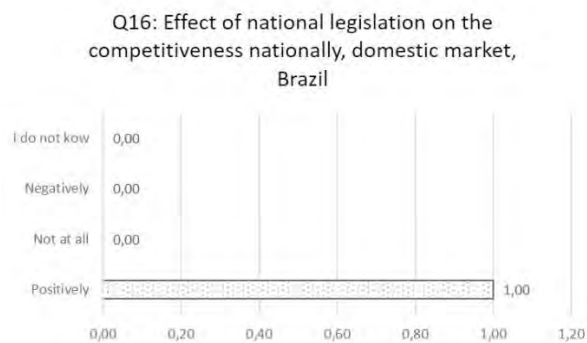
**Figure 9:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Brazil).



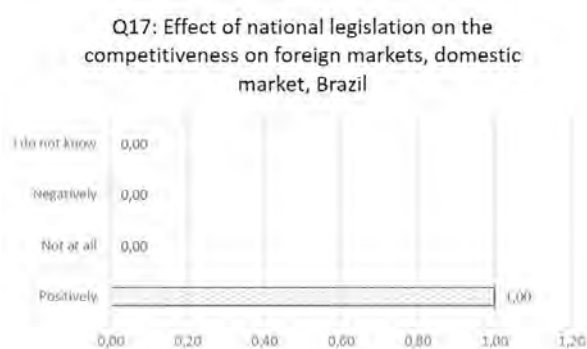
**Figure 10:** Share of companies applying a voluntary model for substituting hazardous chemicals. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Brazil).



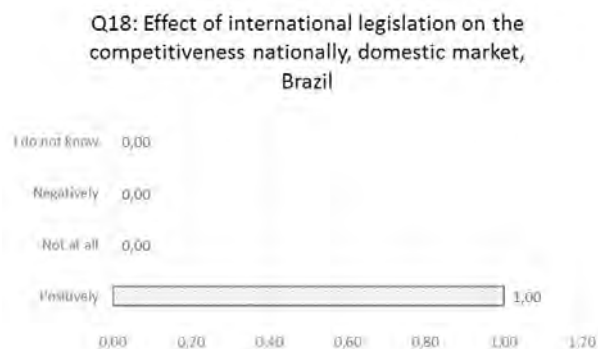
**Figure 11:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 3, Brazil).



**Figure 12:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Brazil).

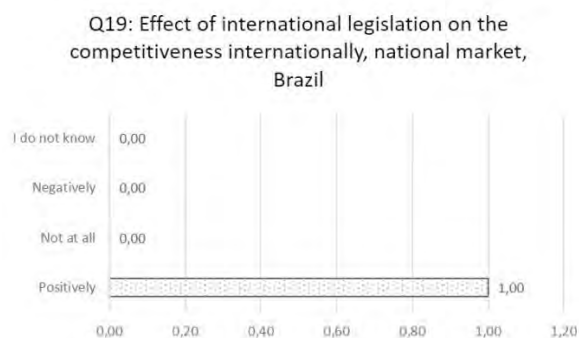


**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, Brazil).

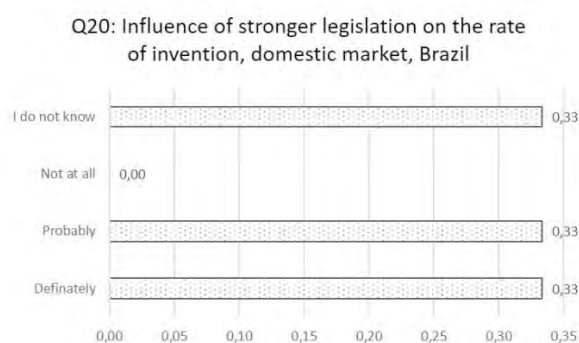


**Figure 14:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, Brazil).





**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Brazil).

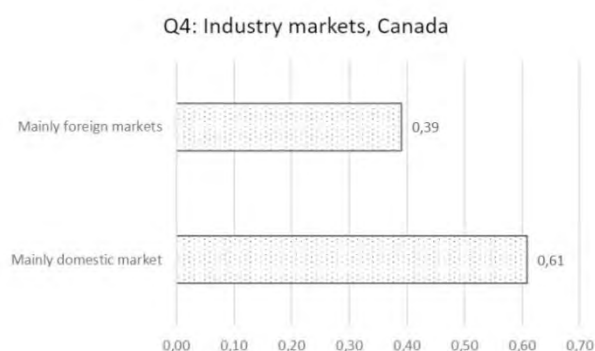


**Figure 16:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 3, Brazil).

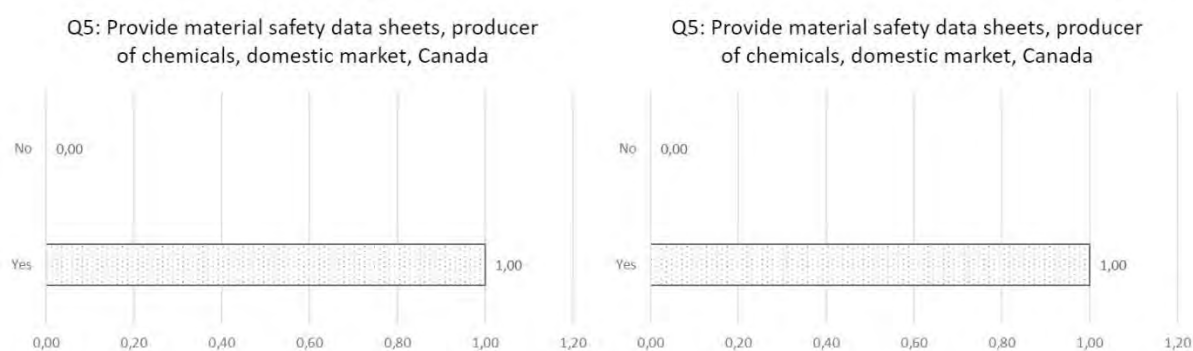
## Appendix O

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.39 for the option "mainly foreign markets" in Figure 1 implies that 39% of the poll respondents picked this option; 0.61 that 61% picked the option "mainly domestic market".

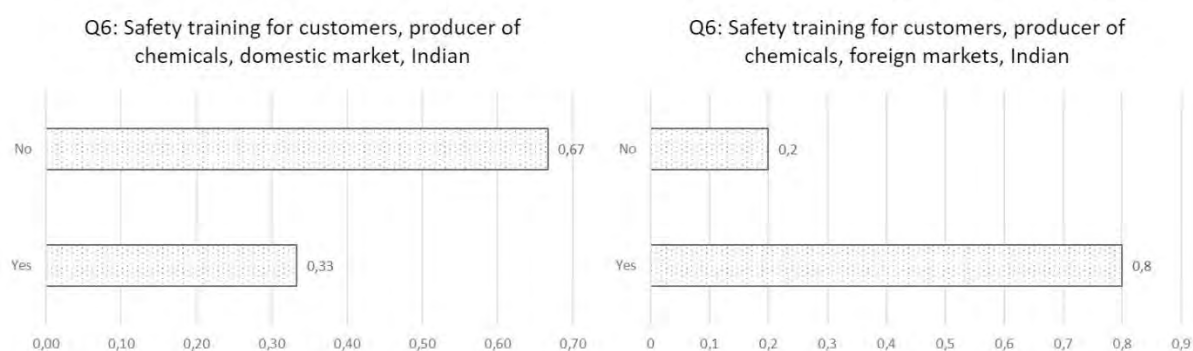
### Canada



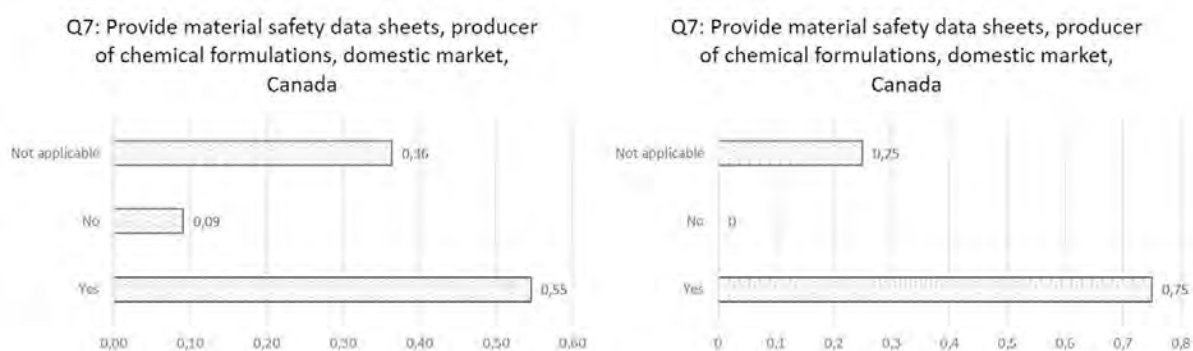
**Figure 1:** Share of participating Canadian companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 23, Canada).



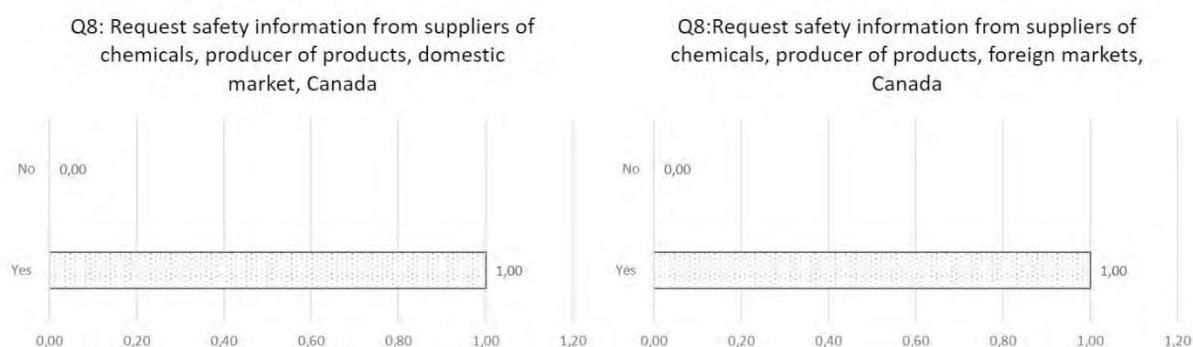
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 5, Canada).



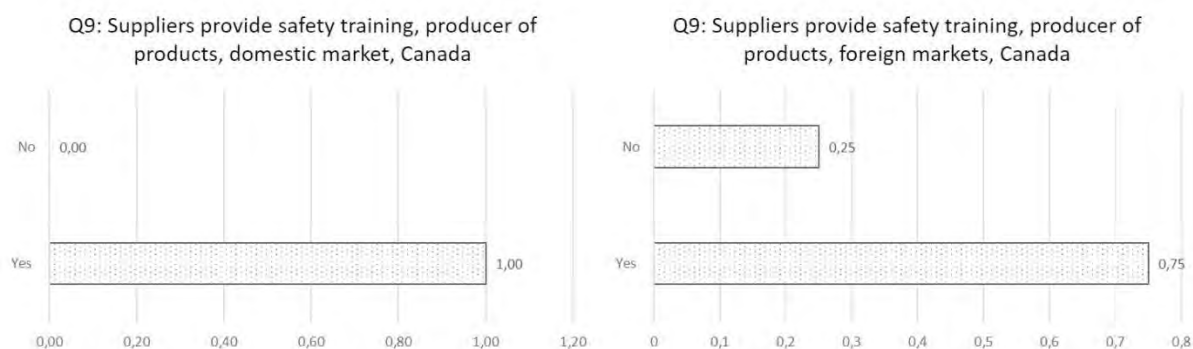
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The left graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 3, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 5, Canada).



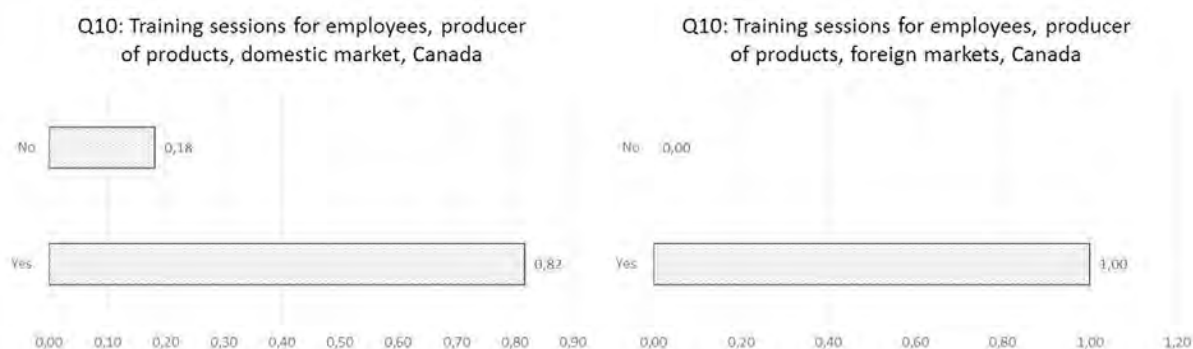
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 11, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Canada).



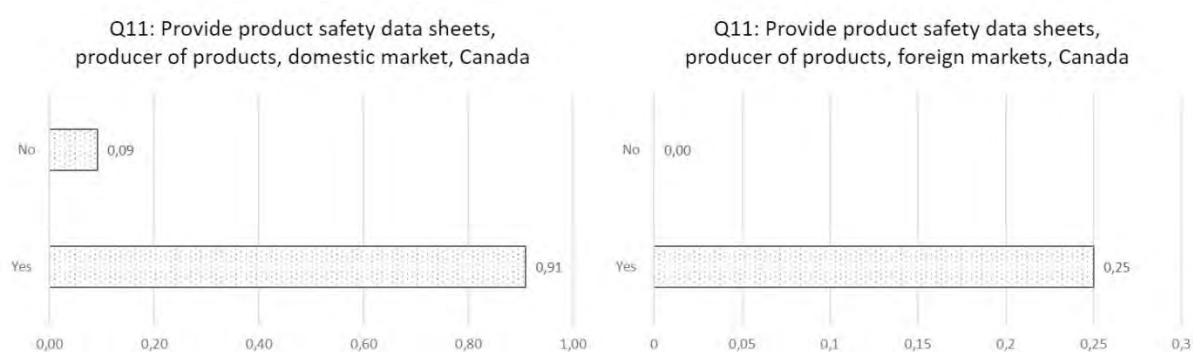
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 11, Canada); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 4, Canada).



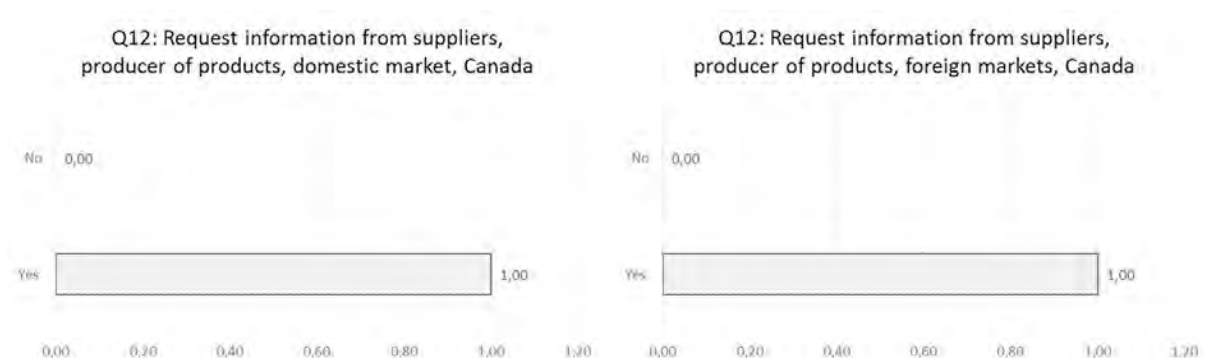
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover (>50%) from the domestic market (sample size: 11, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Canada).



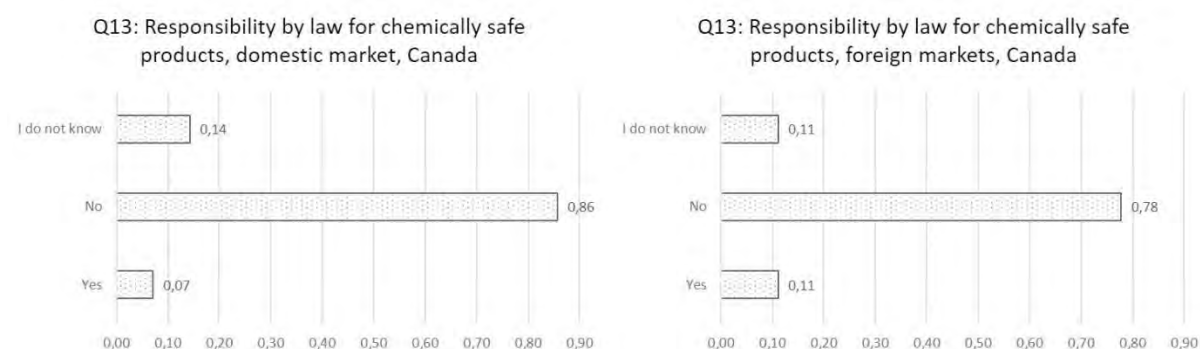
**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 11, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Canada).



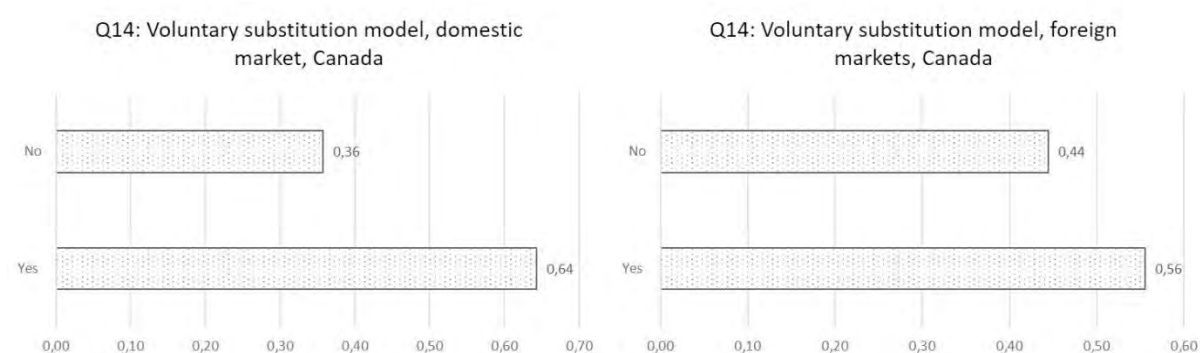
**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 11, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Canada).



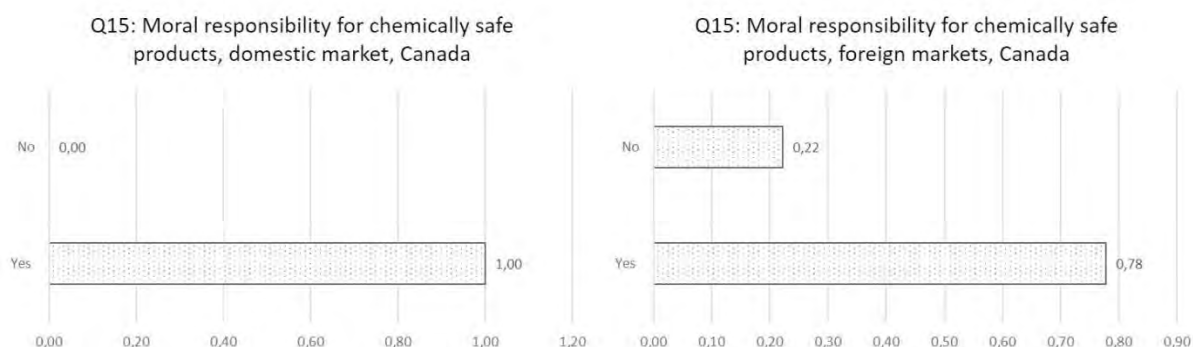
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 11, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Canada).



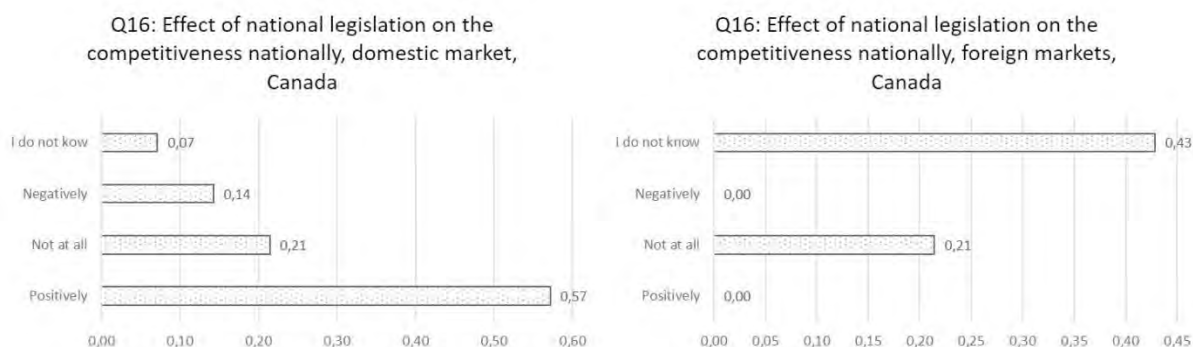
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 9, Canada).



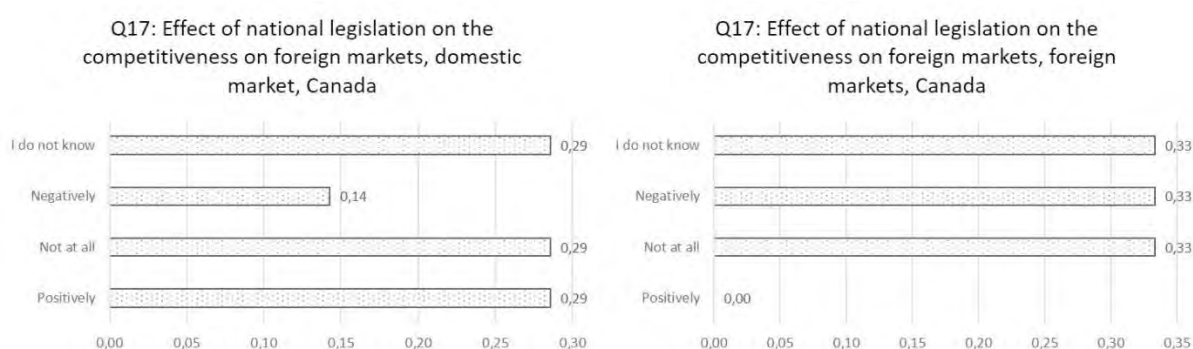
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with the main annual turnover (>50%) from foreign markets (sample size: 9, Canada).



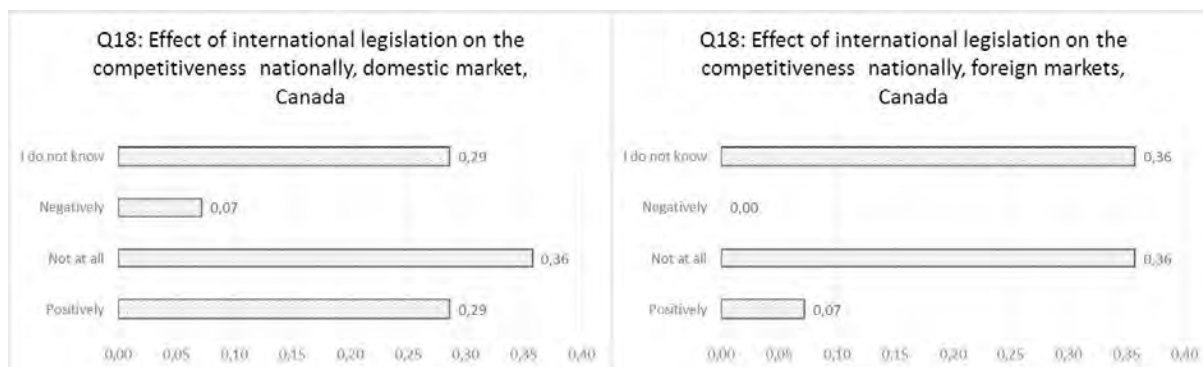
**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 9, Canada).



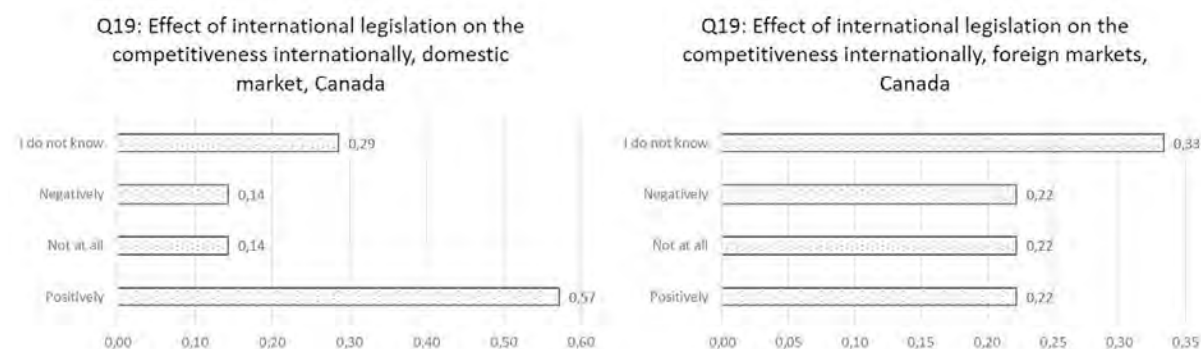
**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 9, Canada).



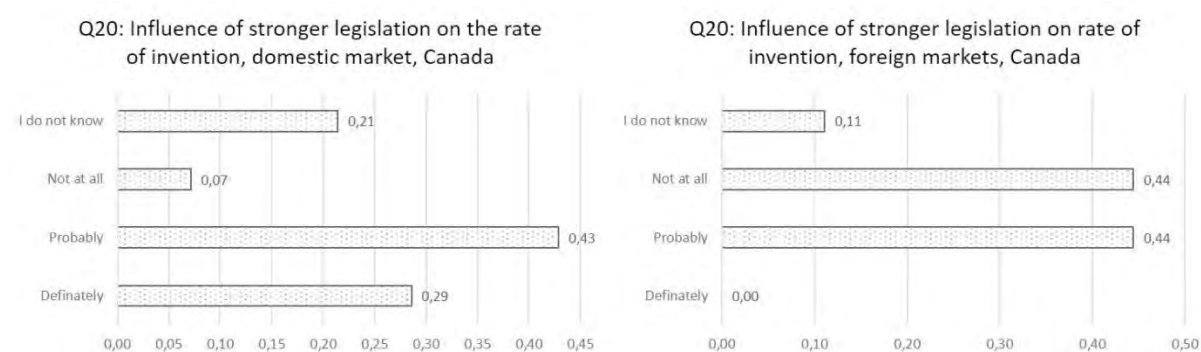
**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 9, Canada).



**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 9, Canada).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 9, Canada).

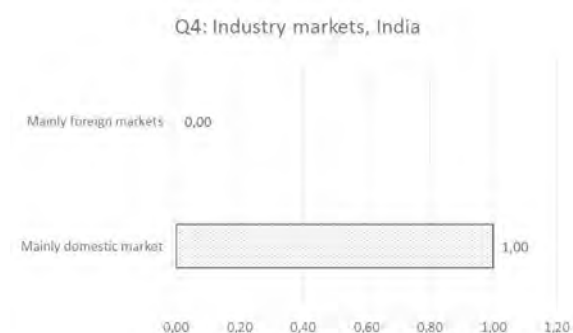


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 14, Canada); the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 9, Canada).

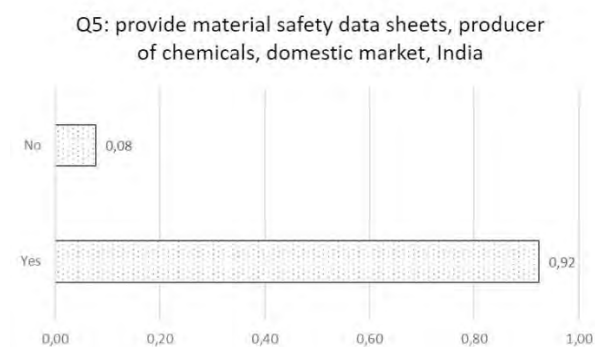
## Appendix P

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.00 for the option "mainly foreign markets" in Figure 1 implies that 0% of the poll respondents picked this option; 1.00 that 100% picked the option "mainly domestic market".

### India

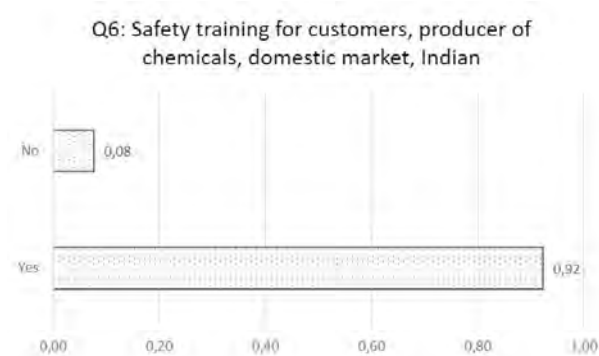


**Figure 1:** Share of participating Indian companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 33, India).

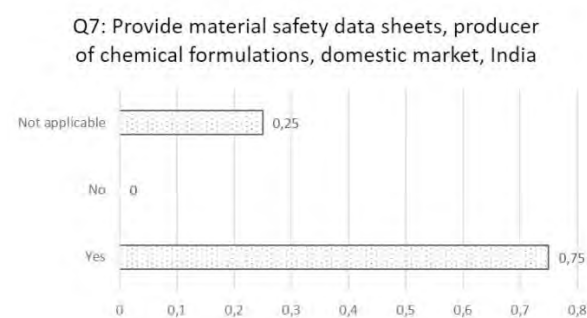


**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 13, India).

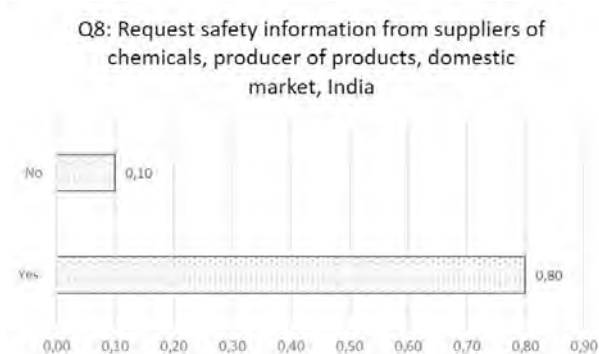




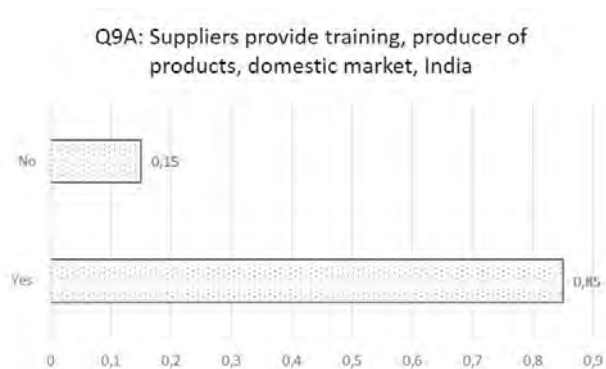
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 13, India).



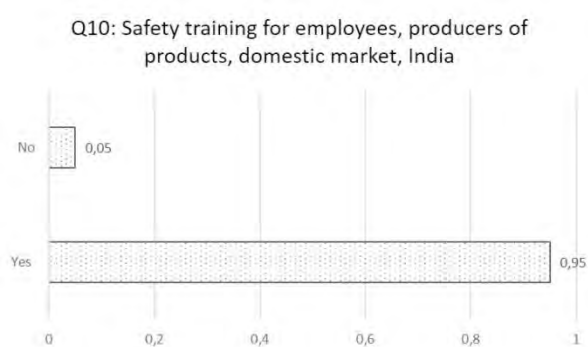
**Figure 3:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 20, India).



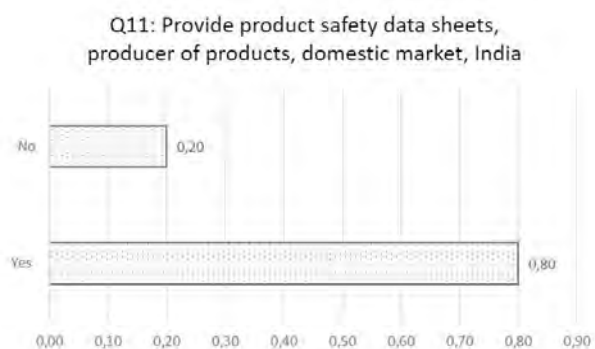
**Figure 4:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 20, India).



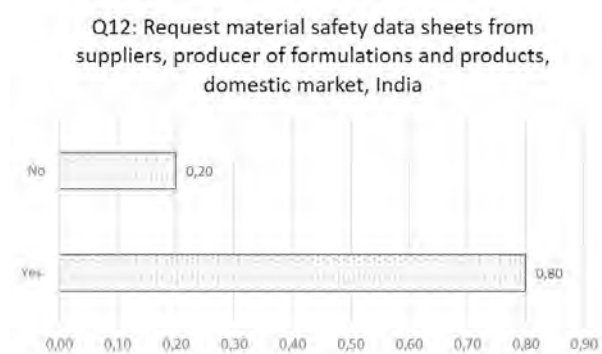
**Figure 5:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The graph shows the share for companies with a substantial proportion of the annual turnover (>50%) from the domestic market (sample size: 20; India).



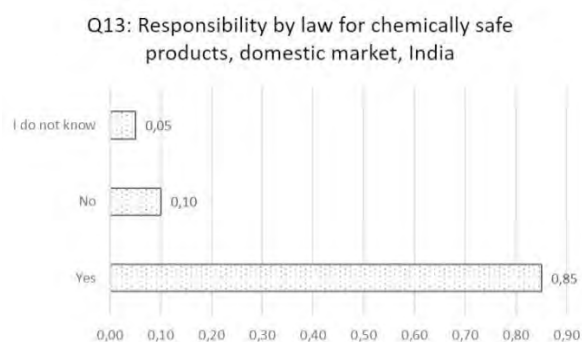
**Figure 6:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 20, India).



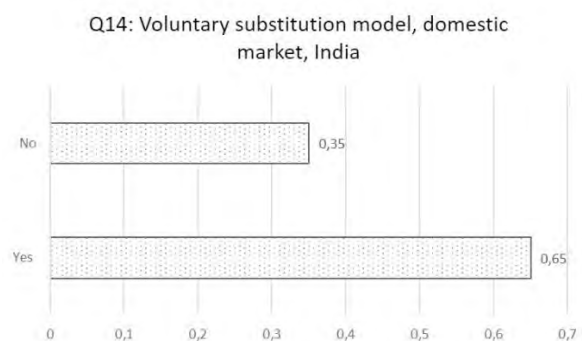
**Figure 7:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 20, India).



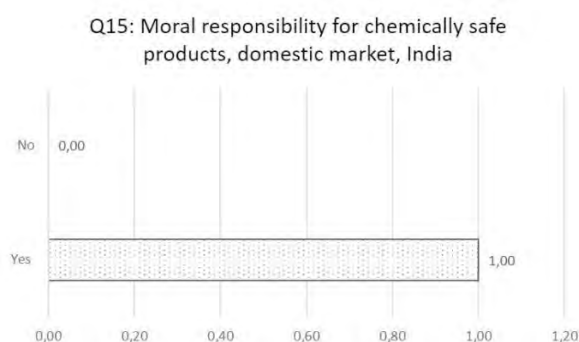
**Figure 8:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 20, India).



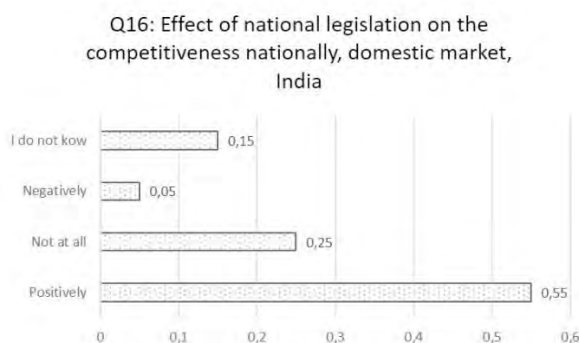
**Figure 9:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, India).



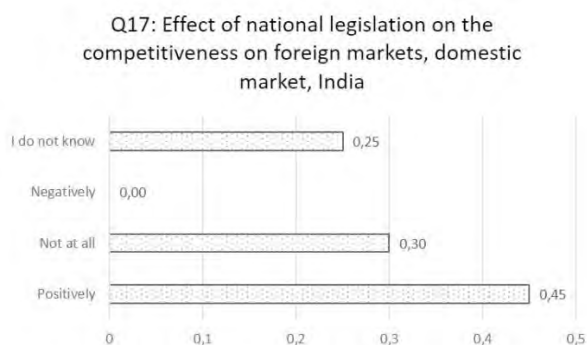
**Figure 10:** Share of companies applying a voluntary model for substituting hazardous chemicals. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, India).



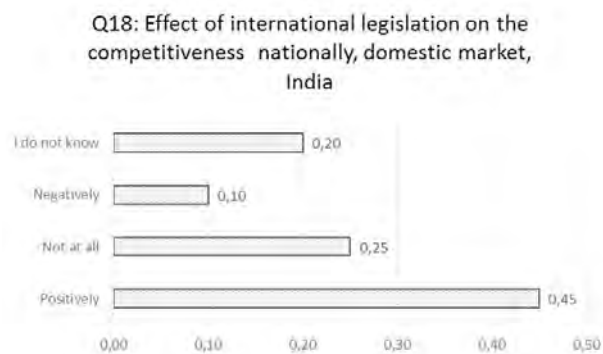
**Figure 11:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 33, India).



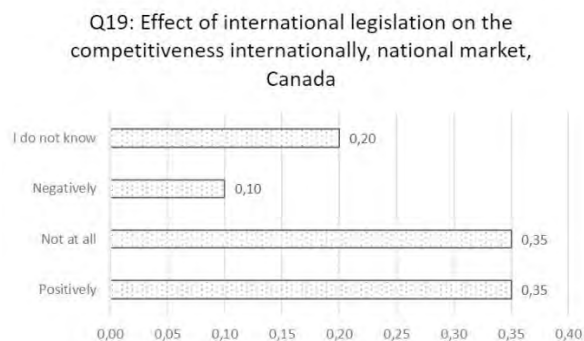
**Figure 12:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, India).



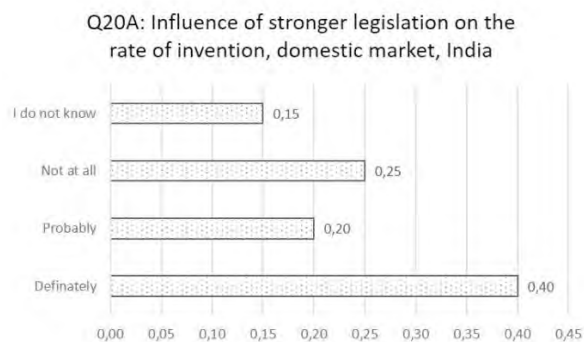
**Figure 12:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, India).



**Figure 13:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, India).



**Figure 14:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 33, India).

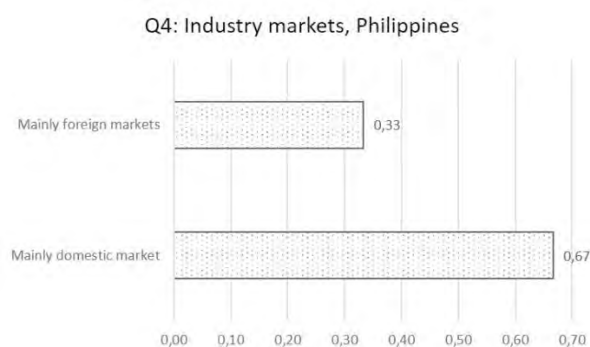


**Figure 15:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 33, India).

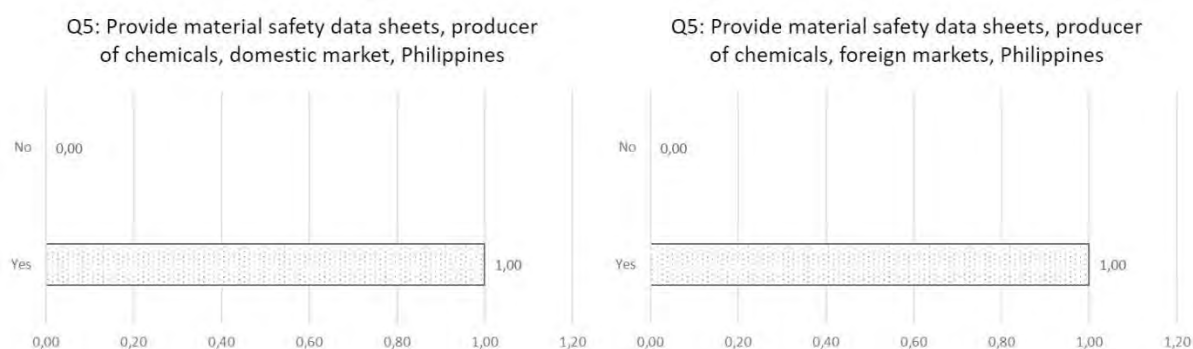
## Appendix Q

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.33 for the option "mainly foreign markets" in Figure 1 implies that 33% of the poll respondents picked this option; 0.67 that 67% picked the option "mainly domestic market".

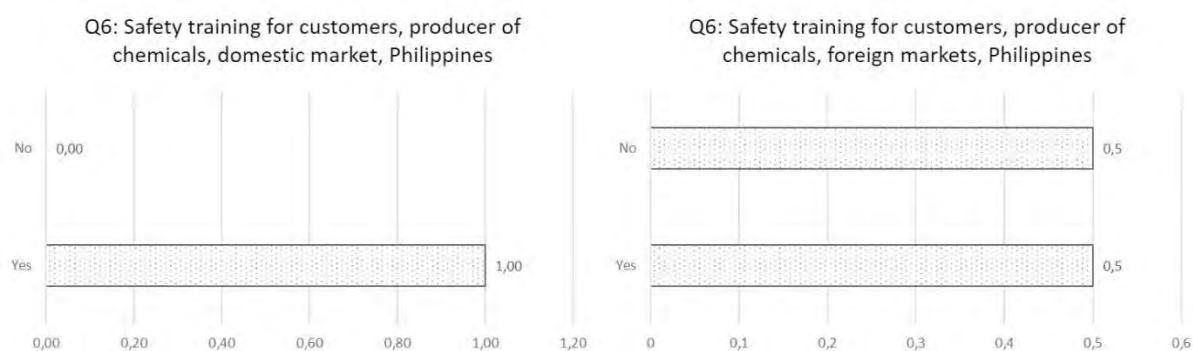
### Philippines



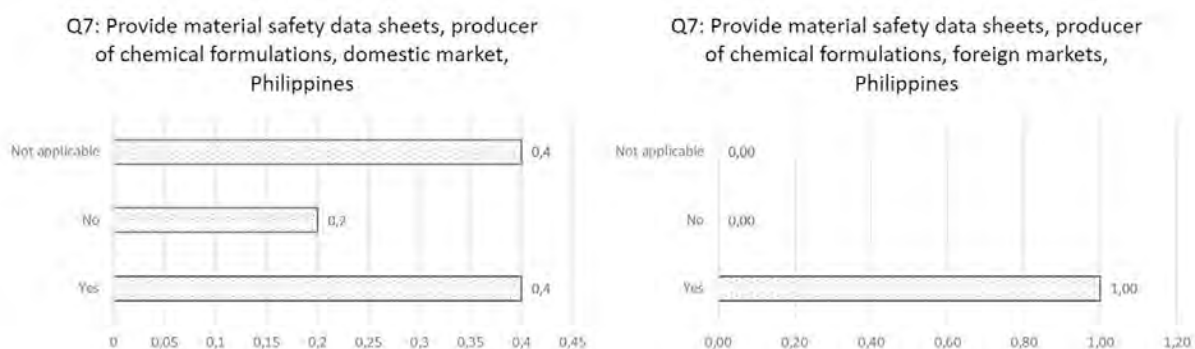
**Figure 1:** Share of participating Philippine companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 18, Philippines).



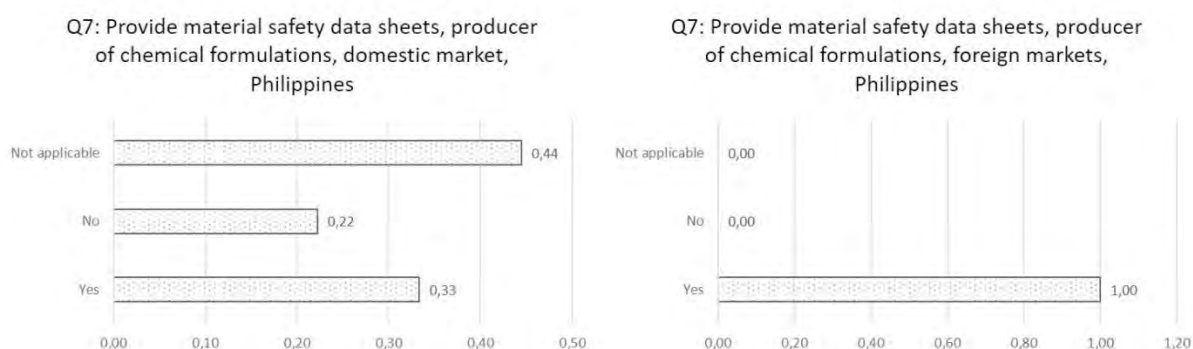
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, Philippines).



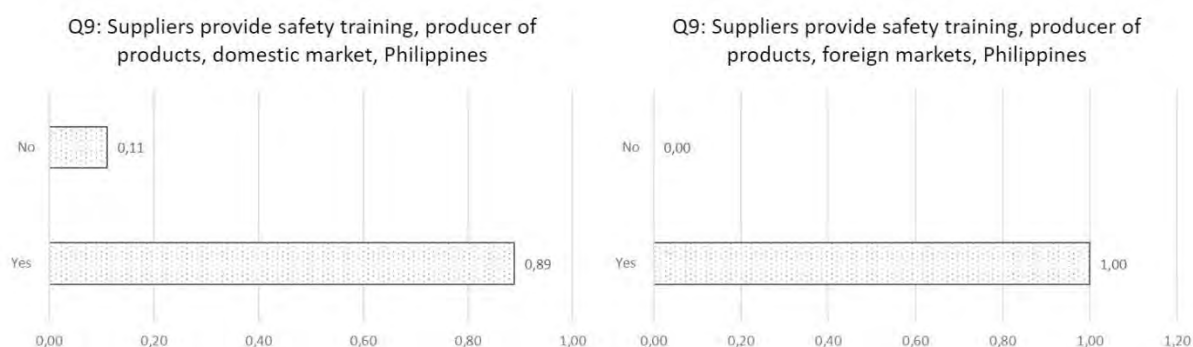
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The left graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 3, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, Philippines).



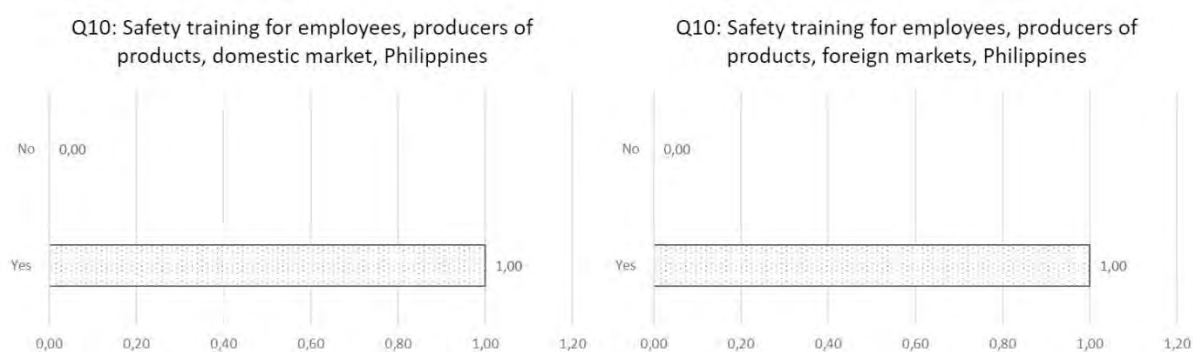
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 9, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Philippines).



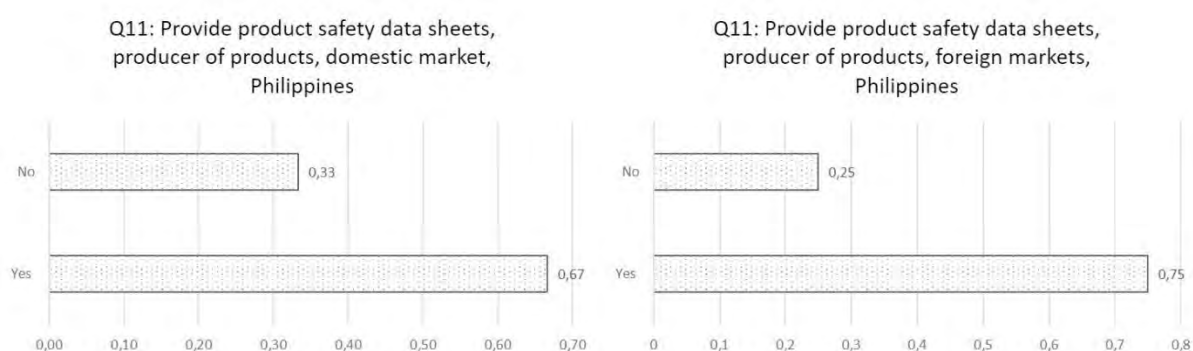
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 11, Philippines); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 4, Philippines).



**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 9, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Philippines).

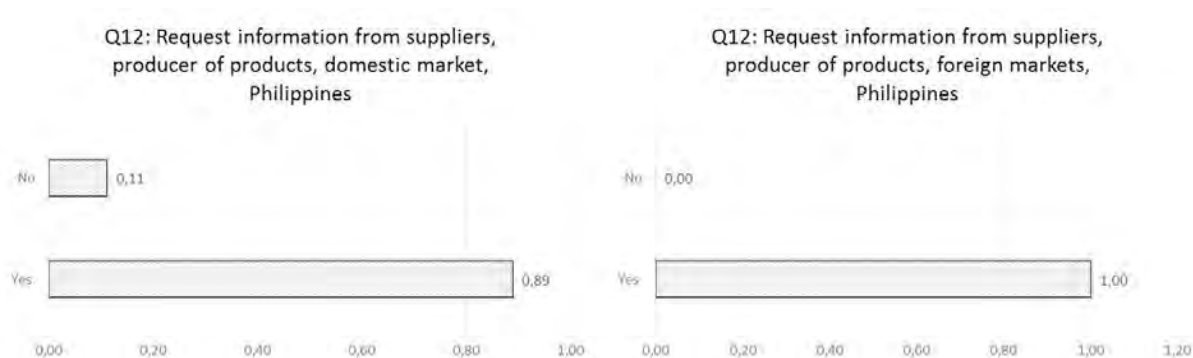


**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 9, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Philippines).

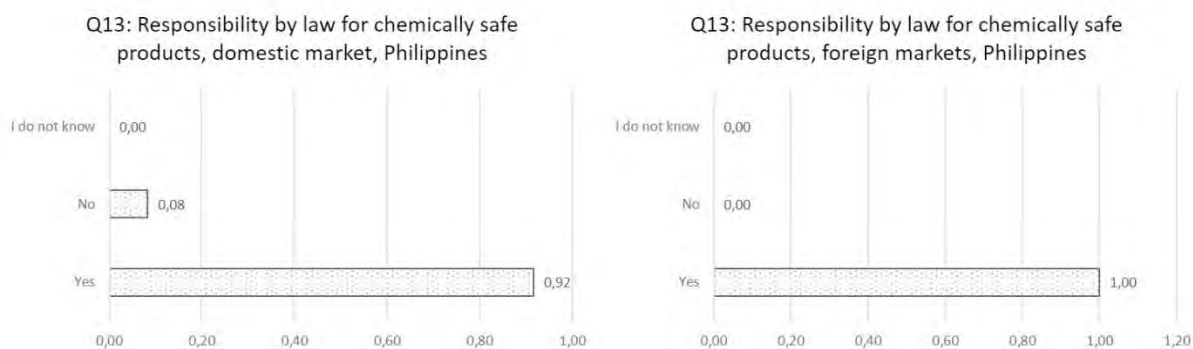


**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, Philippines).

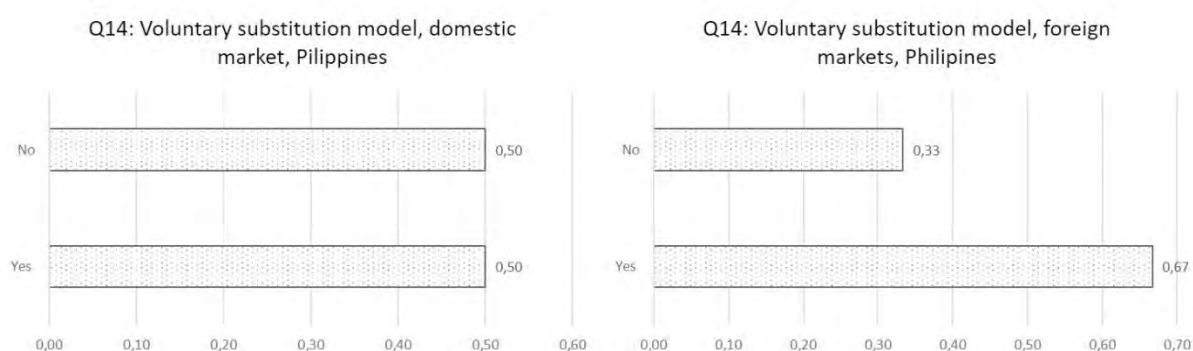




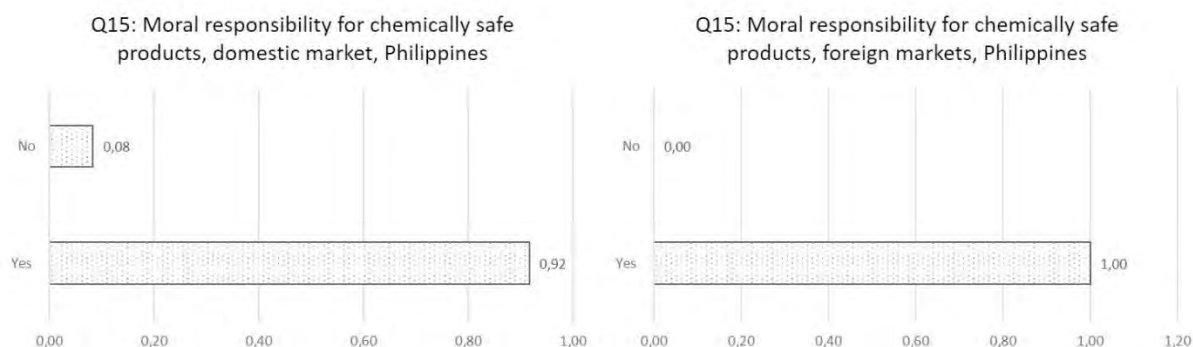
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, Philippines).



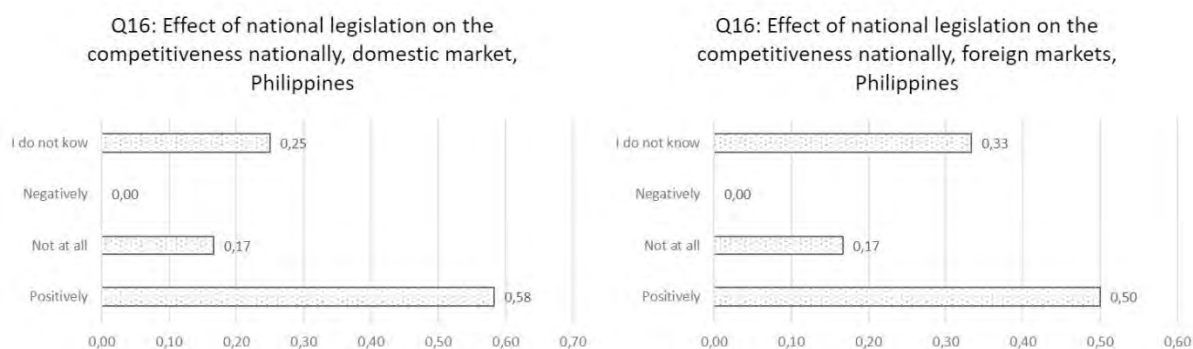
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Philippines).



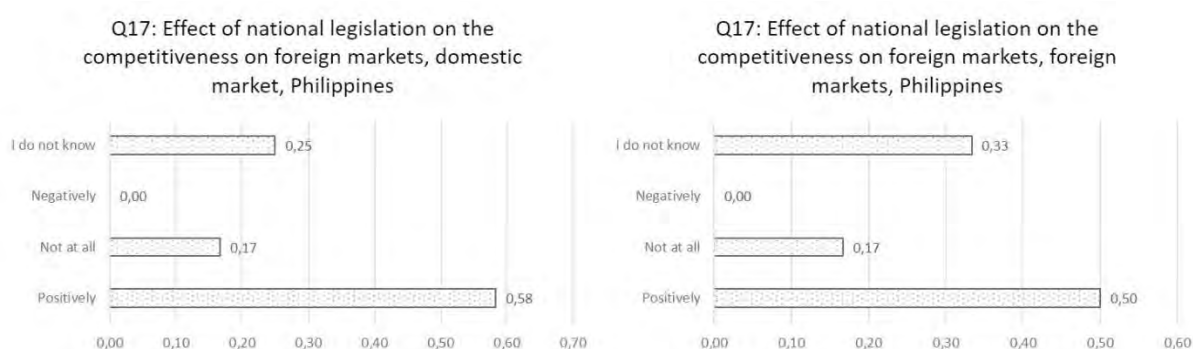
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with the main annual turnover (>50%) from foreign markets (sample size: 6, Philippines).



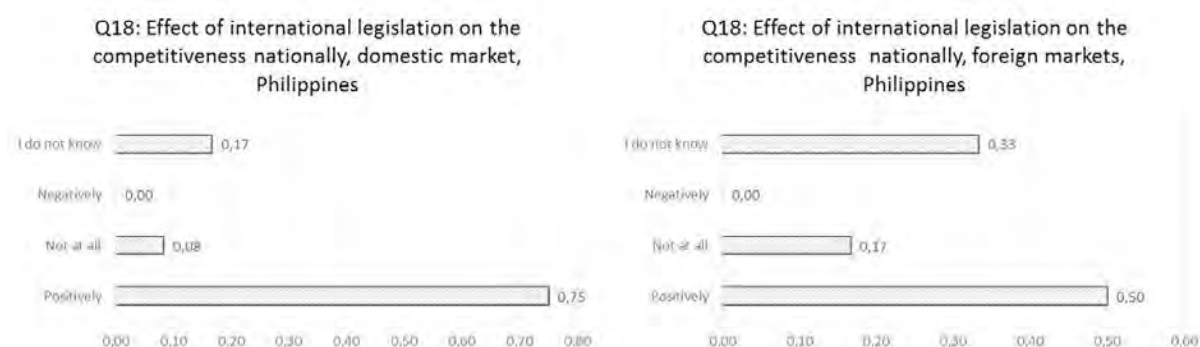
**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Philippines).



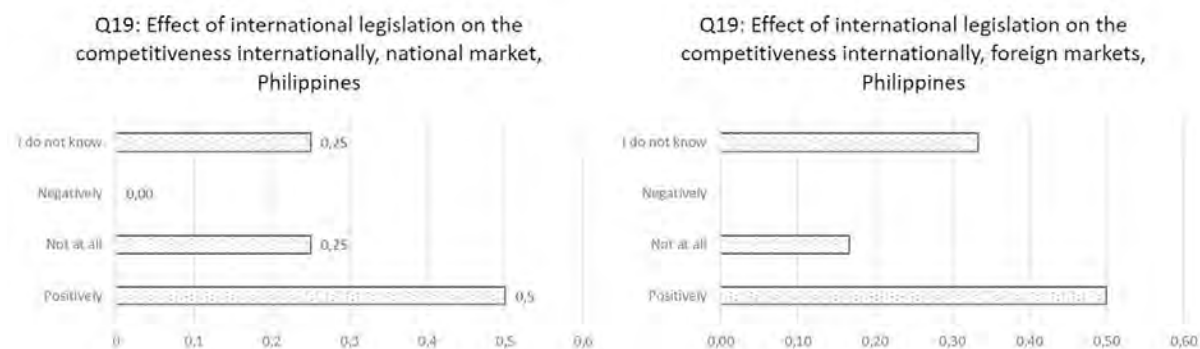
**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Philippines).



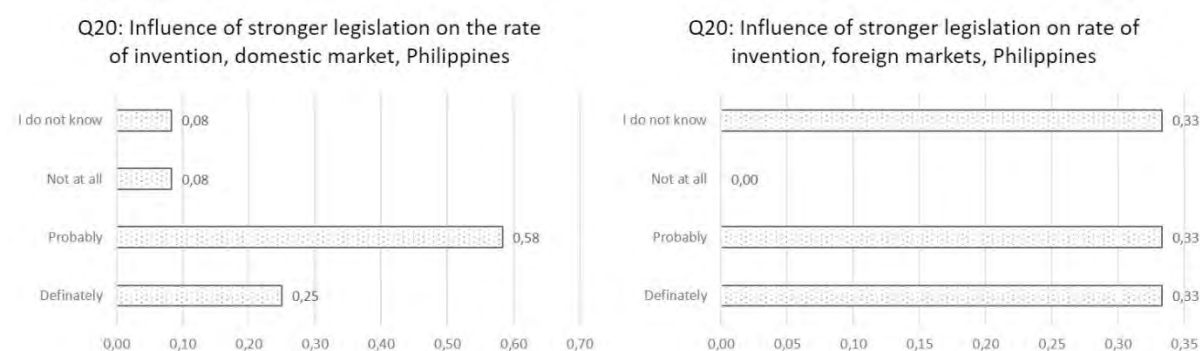
**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Philippines).



**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 2, South Africa).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Philippines).

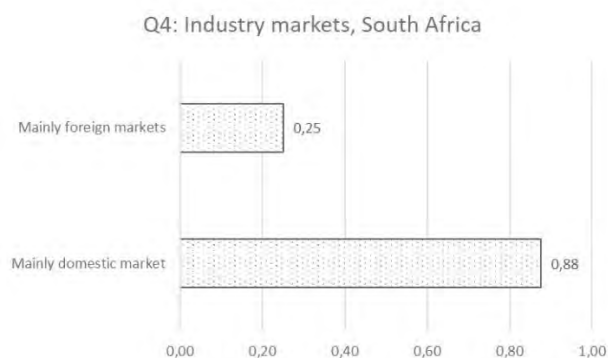


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 12, Philippines); the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 6, Philippines).

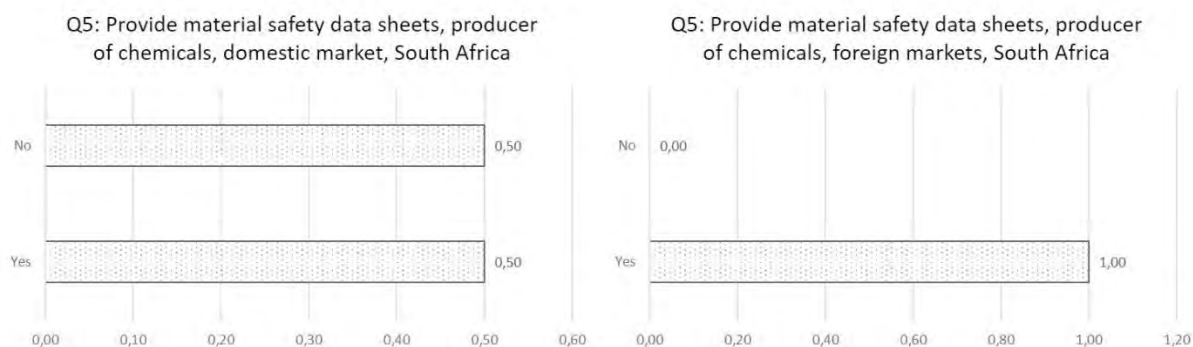
## Appendix R

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.25 for the option "mainly foreign markets" in Figure 1 implies that 25% of the poll respondents picked this option; 0.88 that 88% picked the option "mainly domestic market".

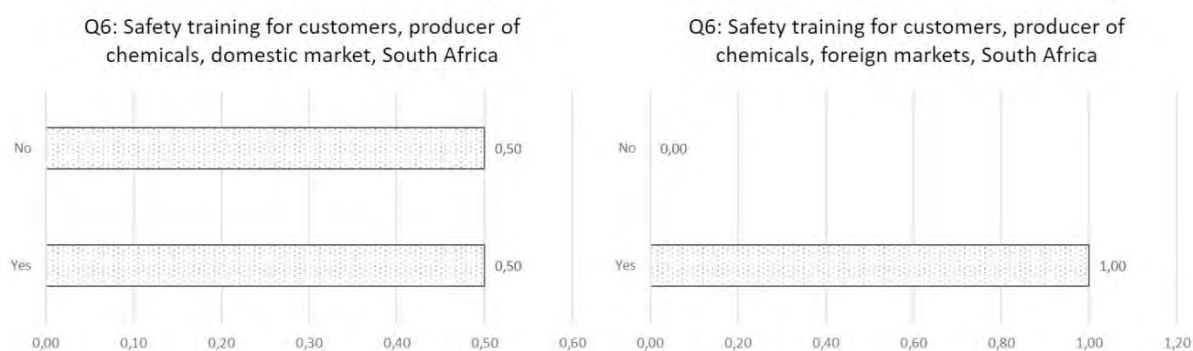
### South Africa



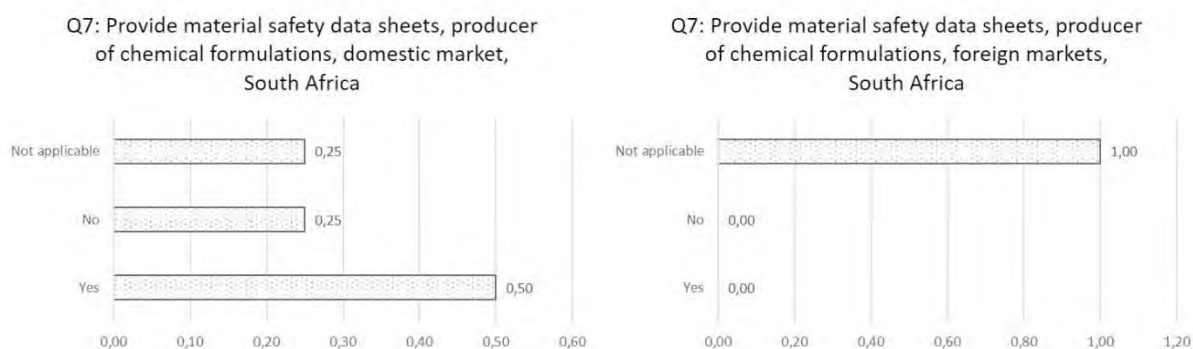
**Figure 1:** Share of participating South African companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 8, South Africa).



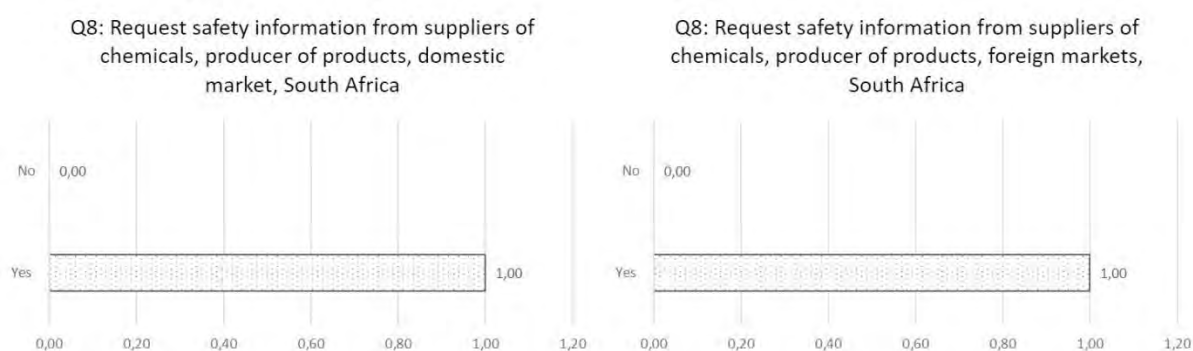
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 2, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



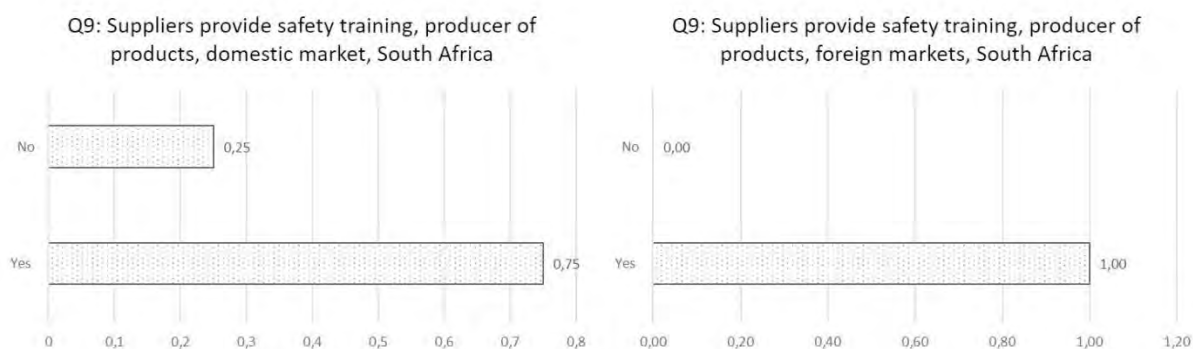
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The left graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 2, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



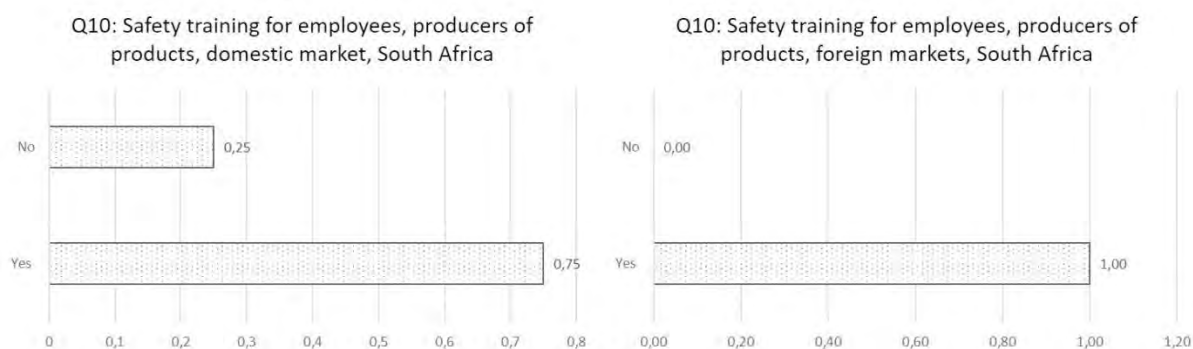
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 4, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



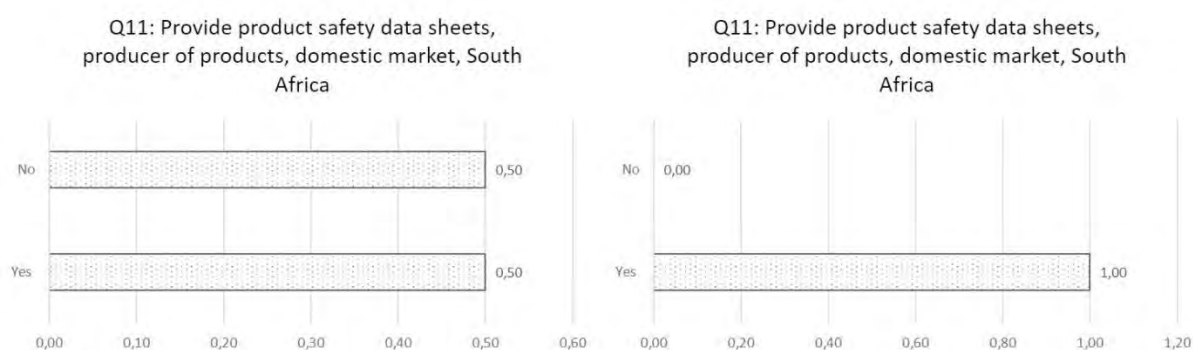
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 4, South Africa); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 1, South Africa).



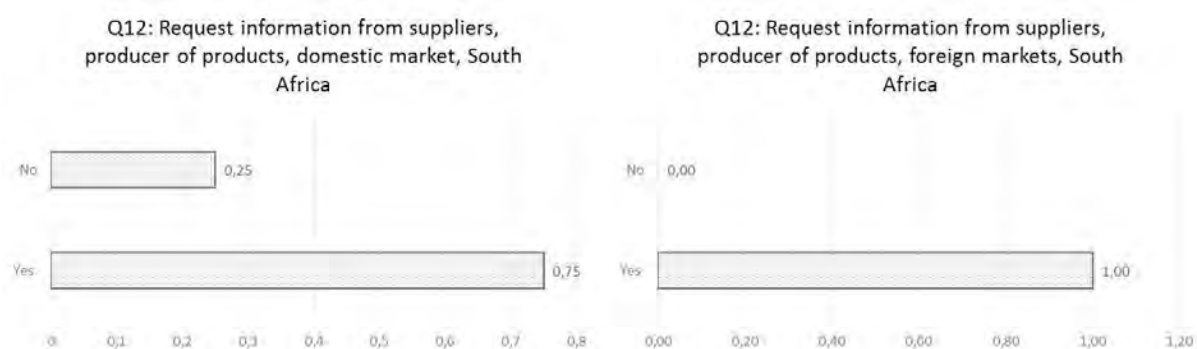
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover (>50%) from the domestic market (sample size: 4, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



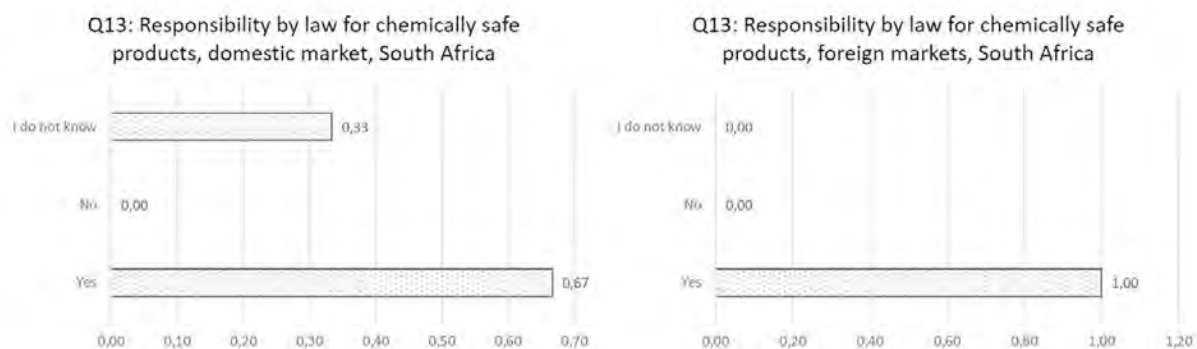
**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 4, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



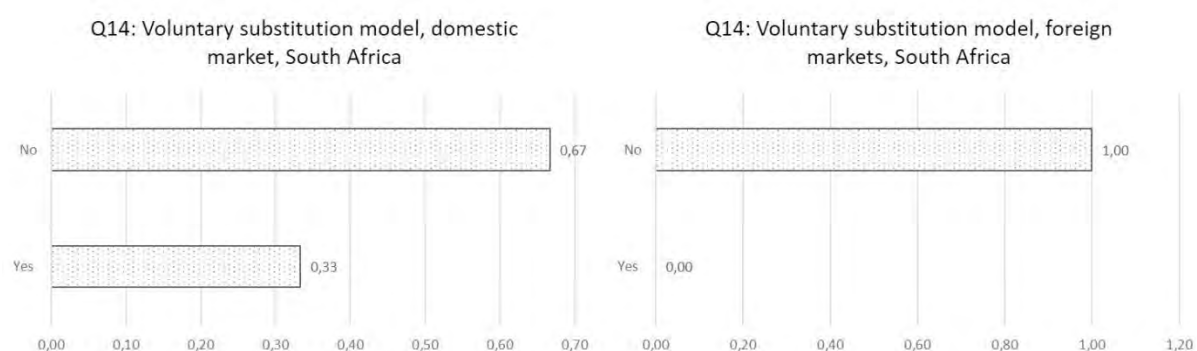
**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 4, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



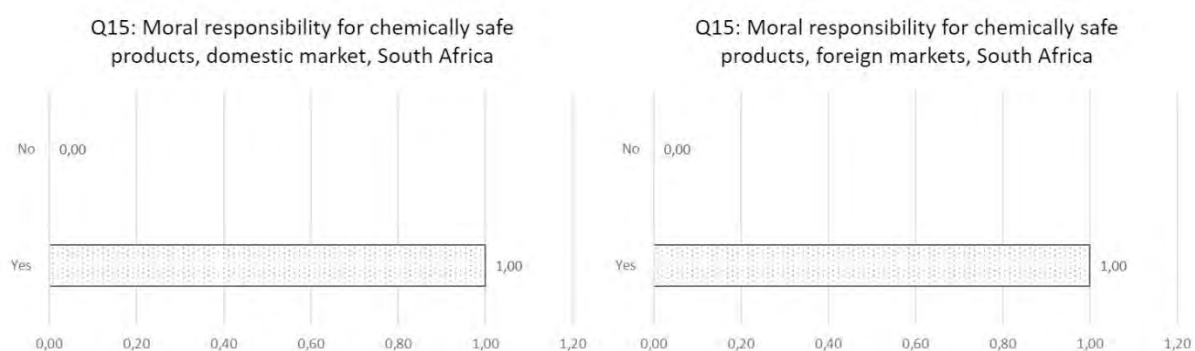
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 4, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 1, South Africa).



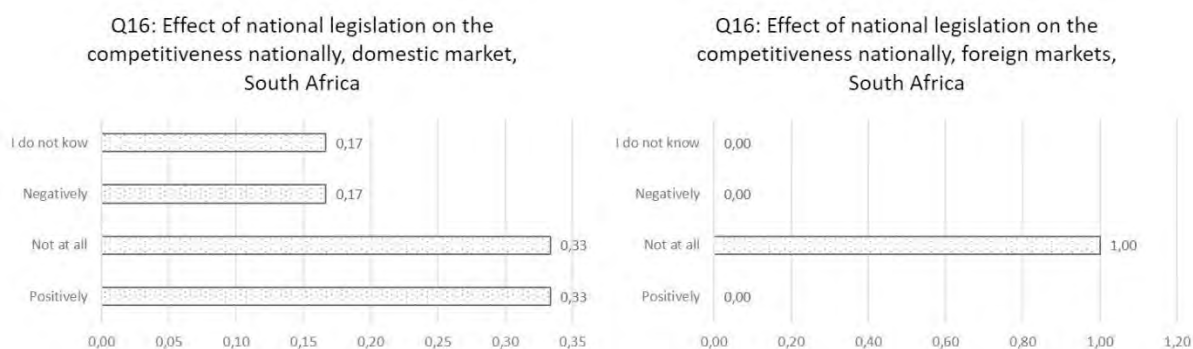
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, South Africa).



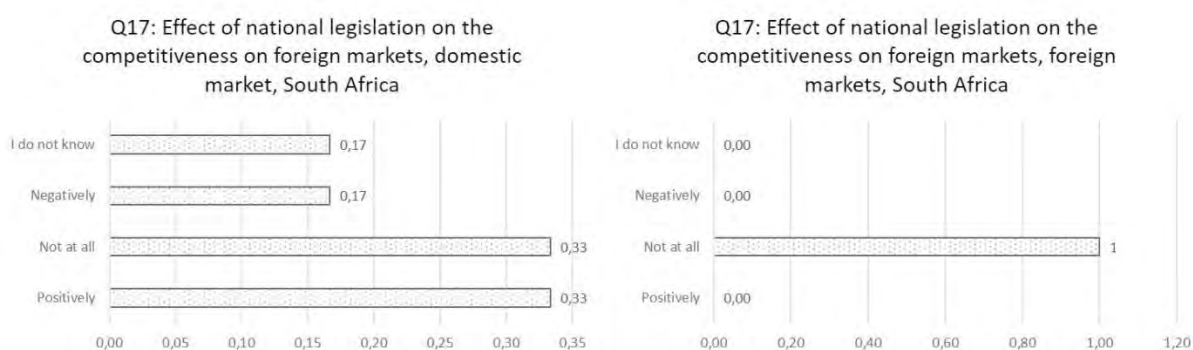
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with the main annual turnover (>50%) from foreign markets (sample size: 2, South Africa).



**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, South Africa).

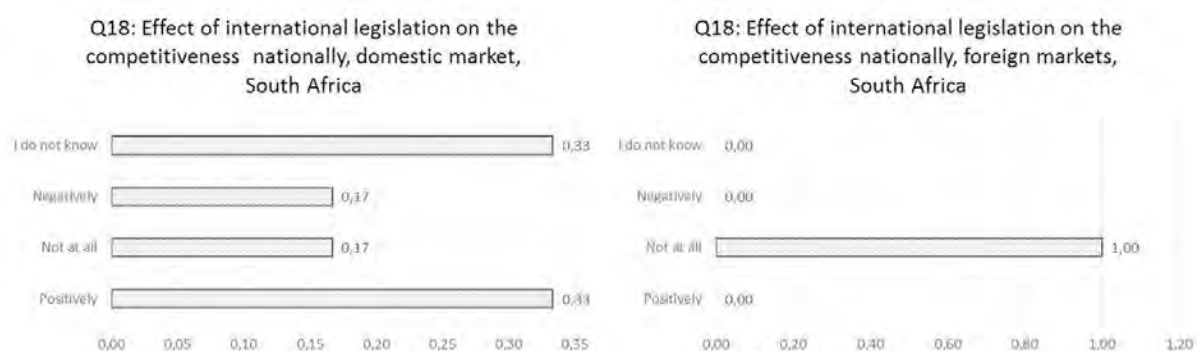


**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, South Africa).

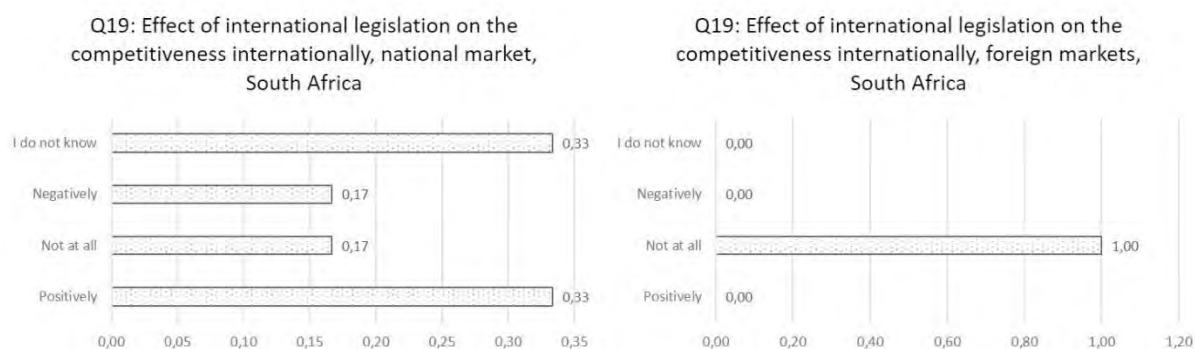


**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, South Africa).

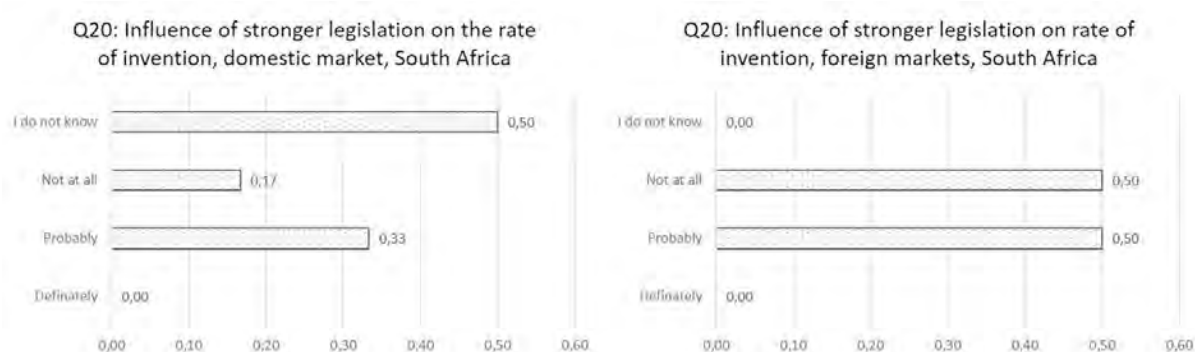




**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 2, South Africa).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 2, South Africa).

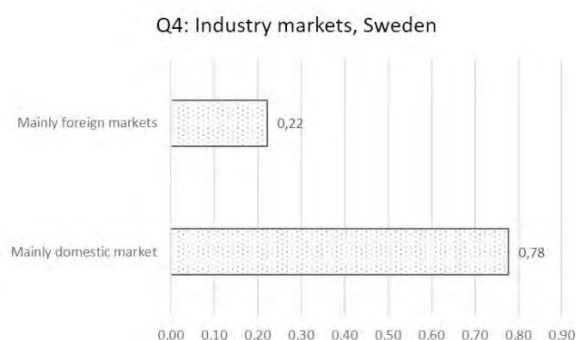


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 6, South Africa); the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 2, South Africa).

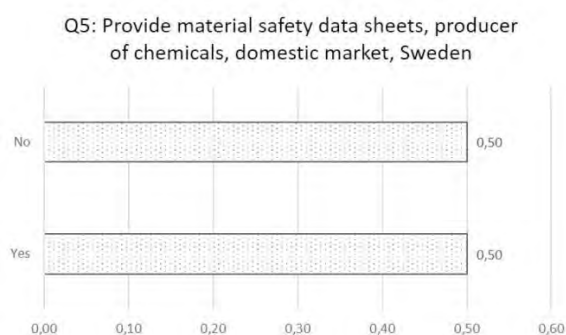
## Appendix S

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.22 for the option "mainly foreign markets" in Figure 1 implies that 22% of the poll respondents picked this option; 0.78 that 78% picked the option "mainly domestic market".

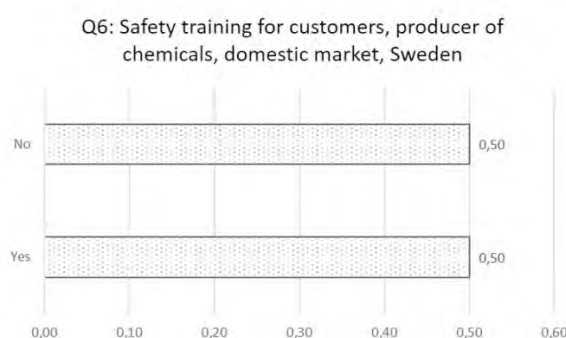
### Sweden



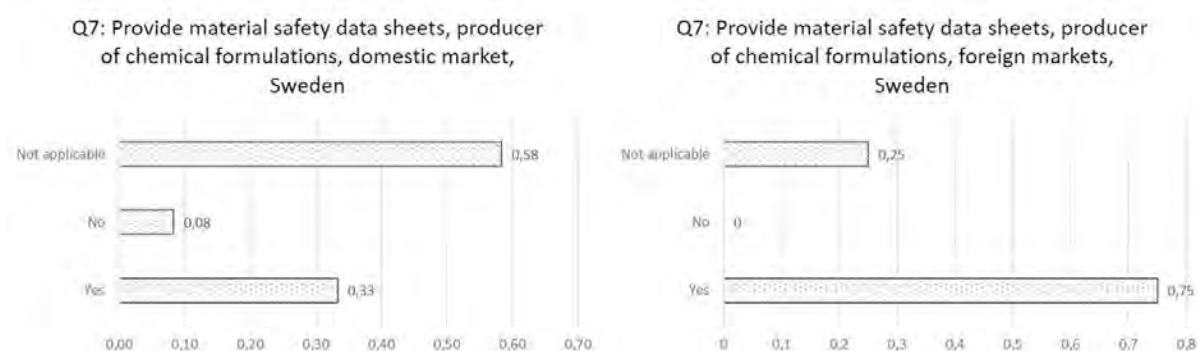
**Figure 1:** Share of participating Swedish companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 18, Sweden).



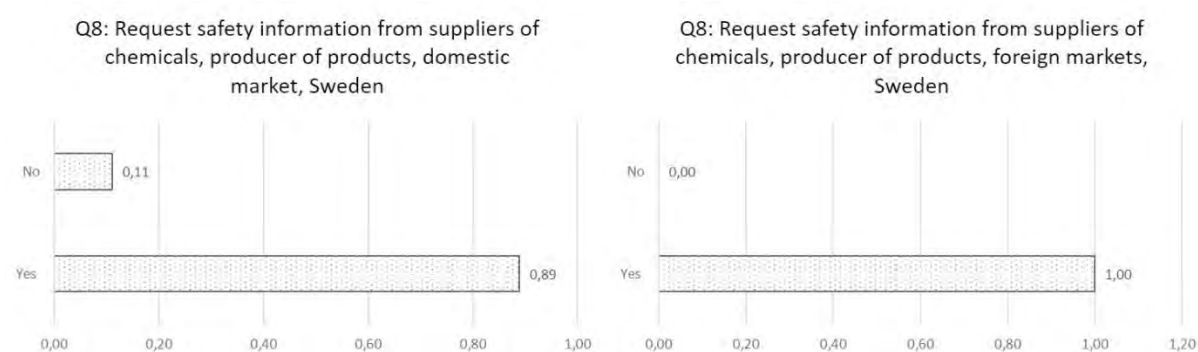
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 2, Sweden).



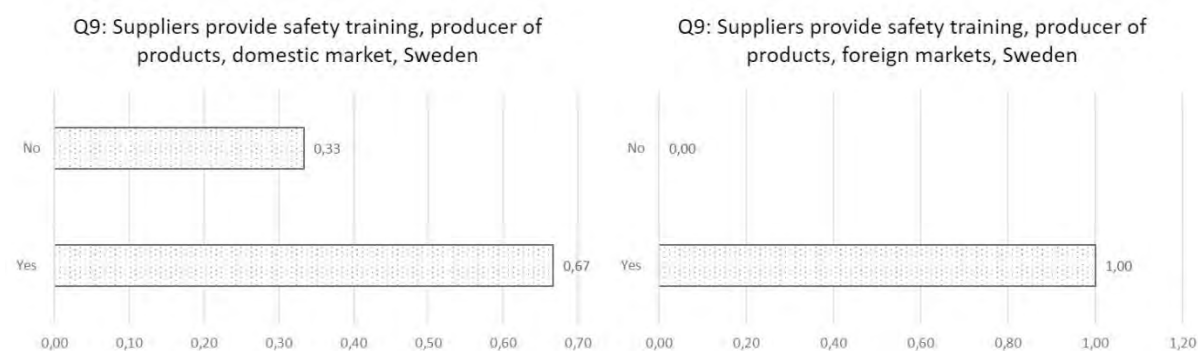
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 2, Sweden).



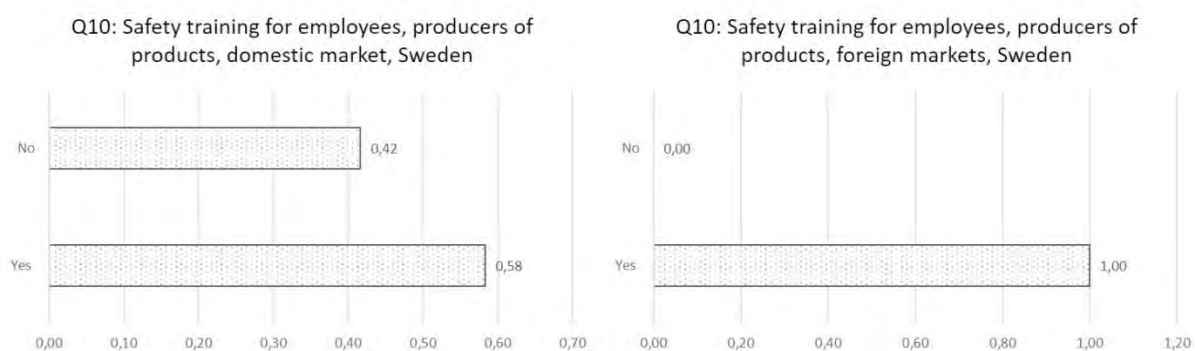
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 12, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



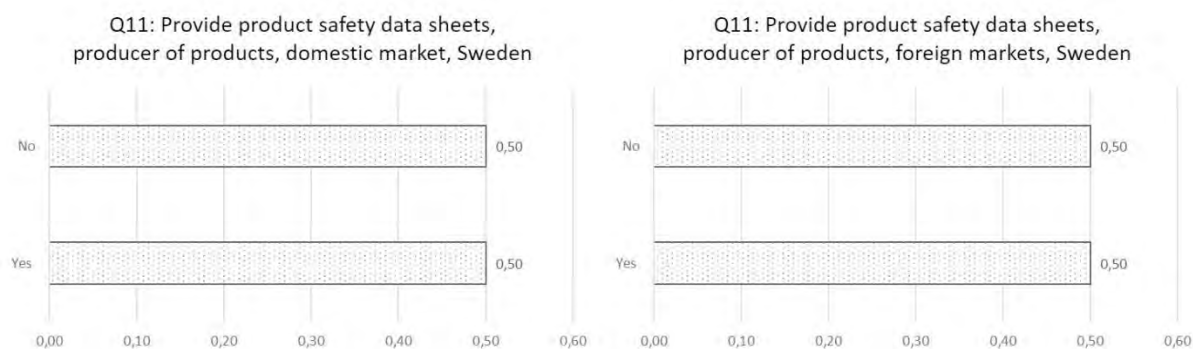
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 12, Sweden); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 4, Sweden).



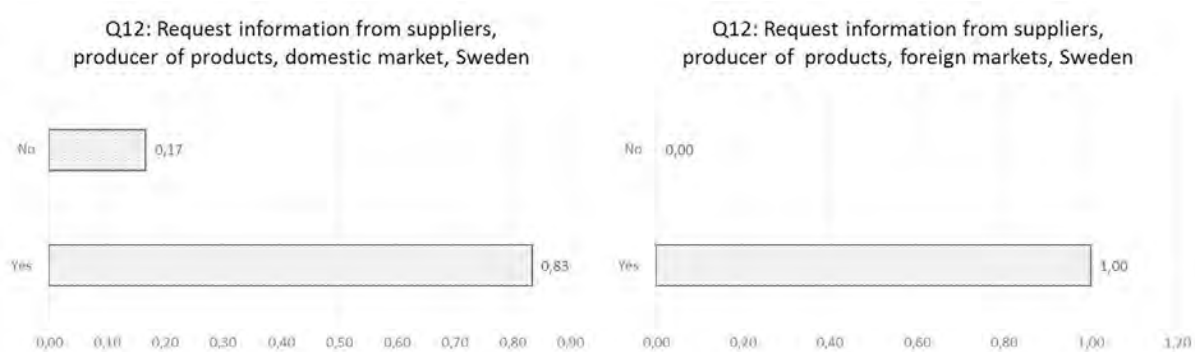
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion of the annual turnover (>50%) from the domestic market (sample size: 12, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



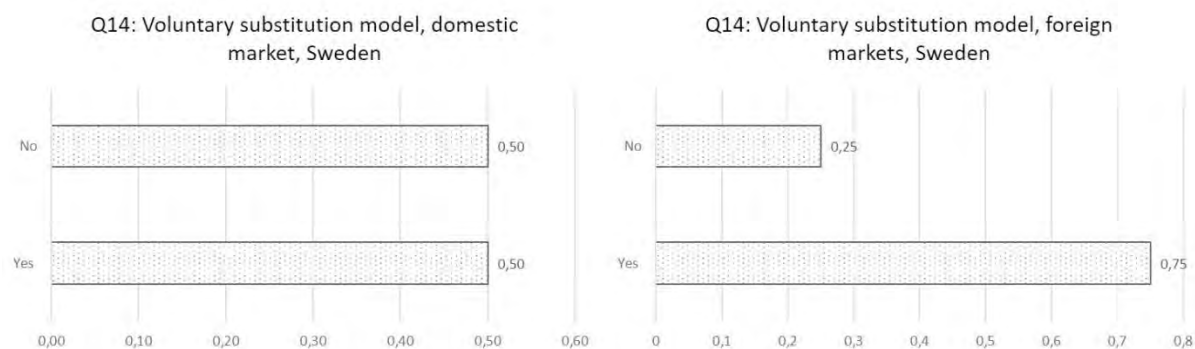
**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



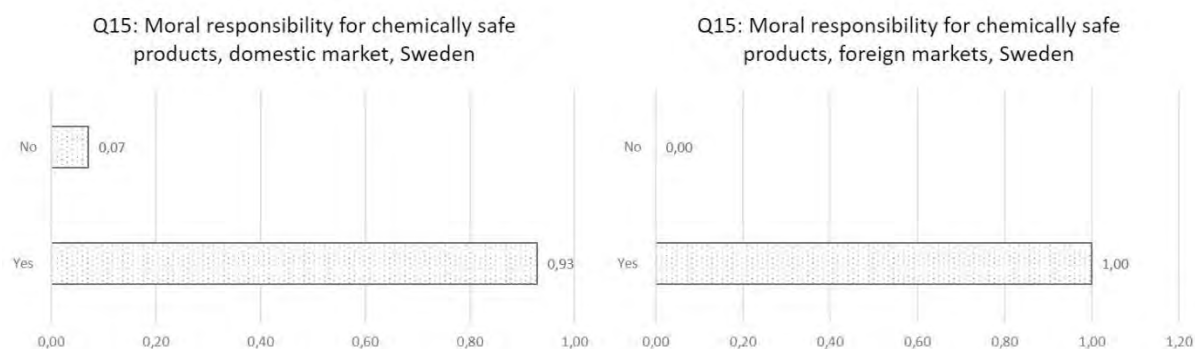
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



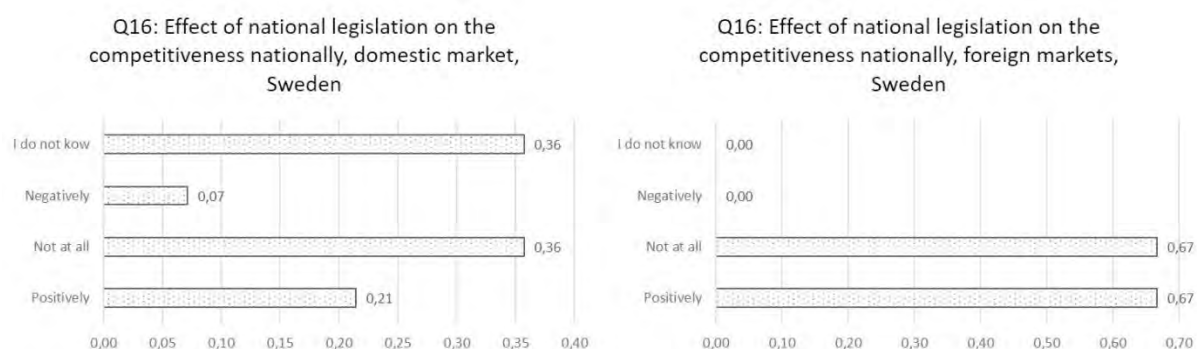
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Sweden); the right the share of companies substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



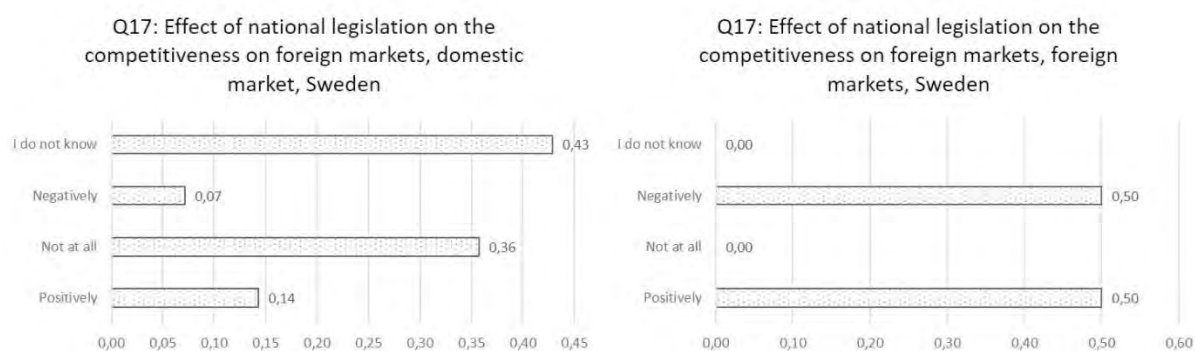
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Sweden); the right the share of companies with the main annual turnover (>50%) from foreign markets) (sample size: 4, Sweden).



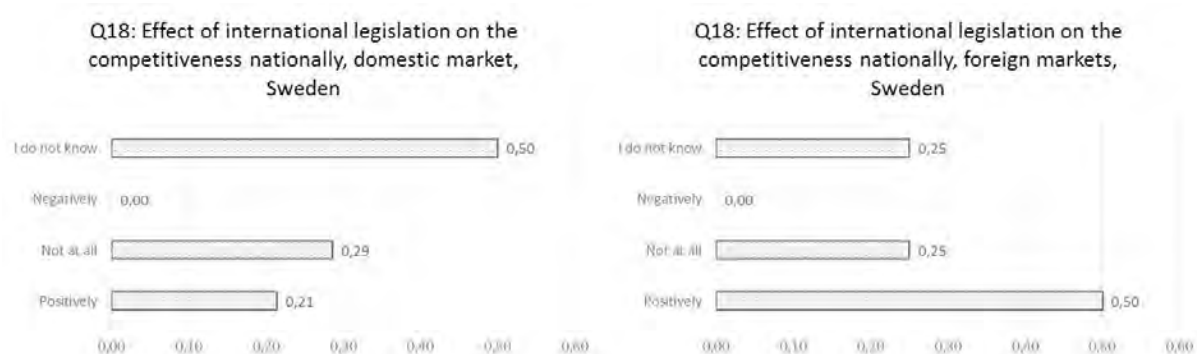
**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 14, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets) (sample size: 4, Sweden).



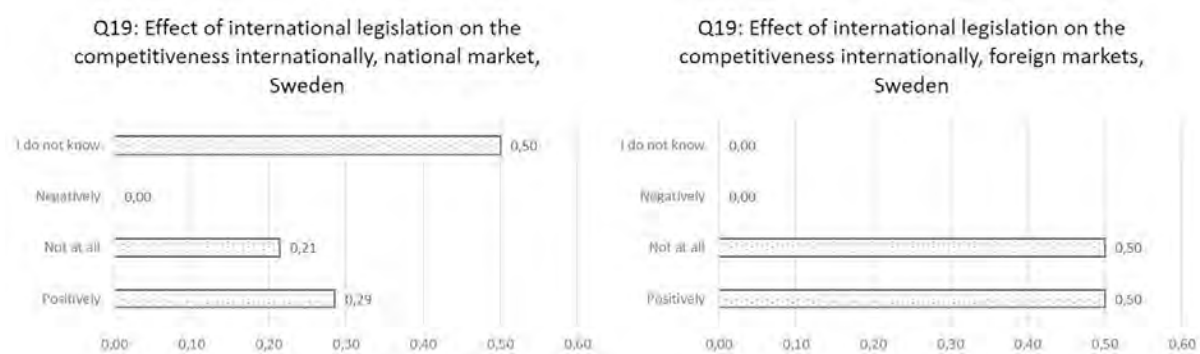
**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



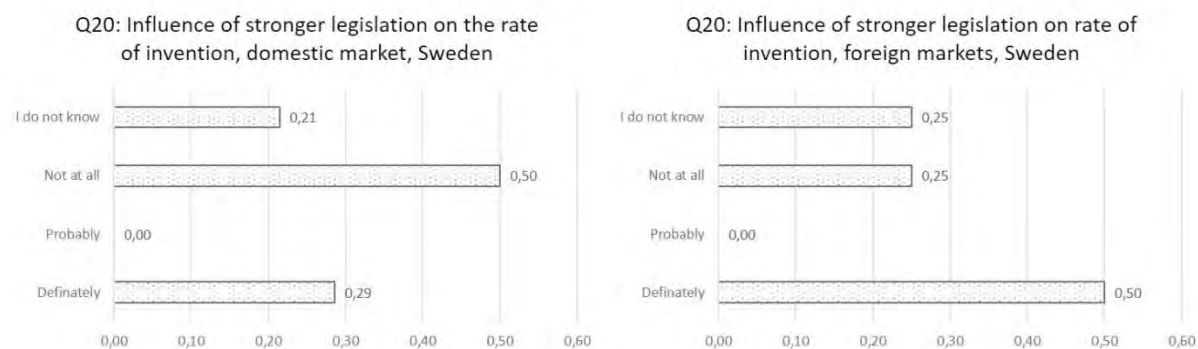
**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Sweden); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).



**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Sweden); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 4, Sweden).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 14, Sweden; the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Sweden).

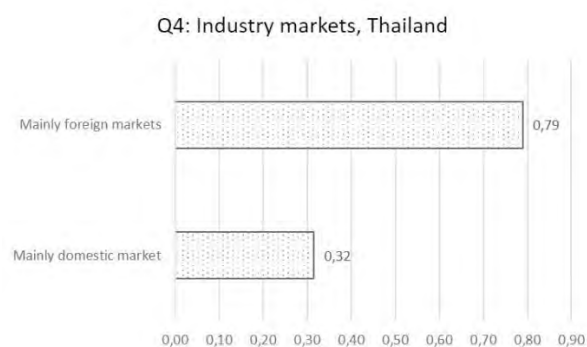


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 14, Sweden; the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 4, Sweden).

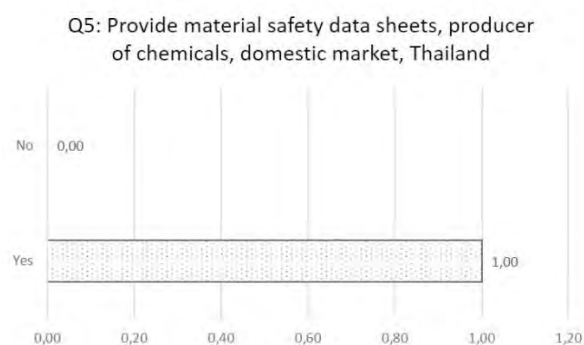
## Appendix S

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.79 for the option "mainly foreign markets" in Figure 1 implies that 79% of the poll respondents picked this option; 0.32 that 32% picked the option "mainly domestic market".

### Thailand

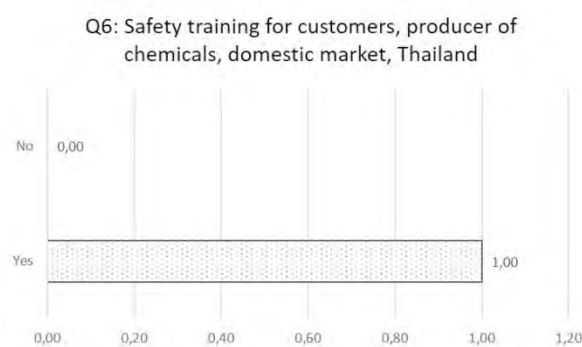


**Figure 1:** Share of participating Thai companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 19, Thailand).

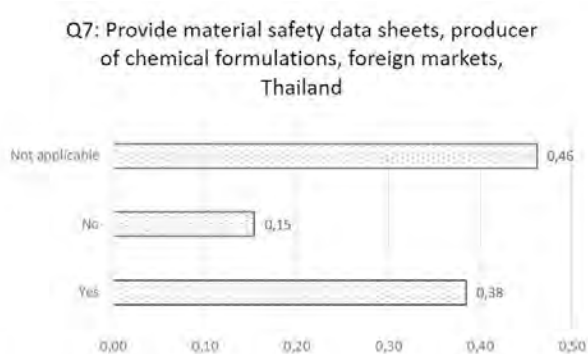
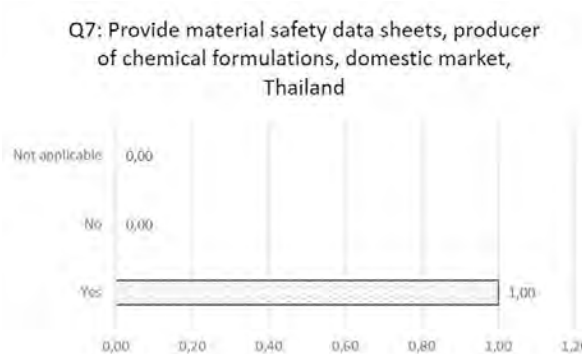


**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Thailand).

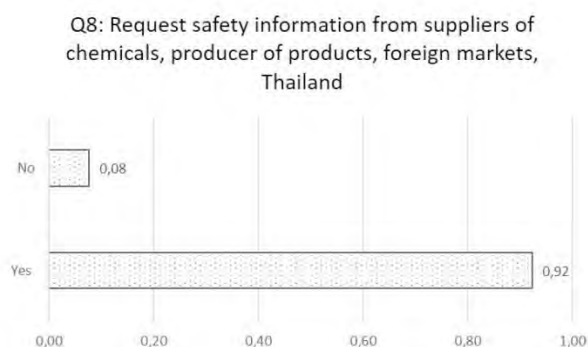
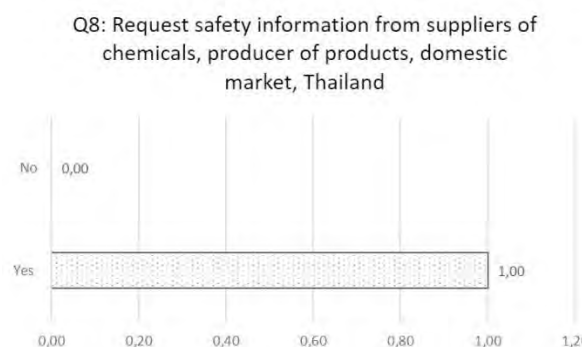




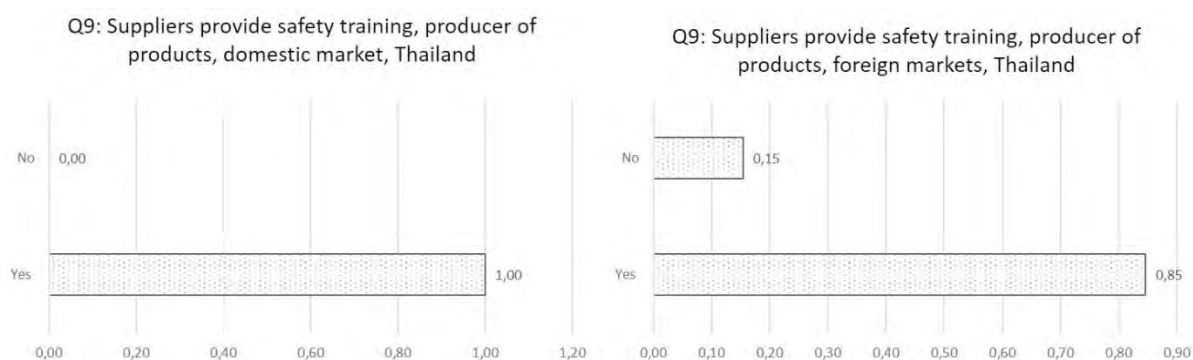
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 3, Thailand).



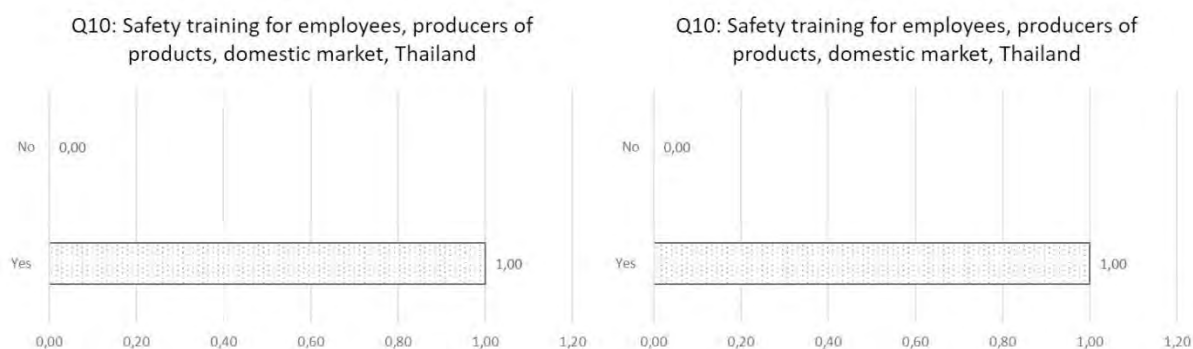
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 3, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



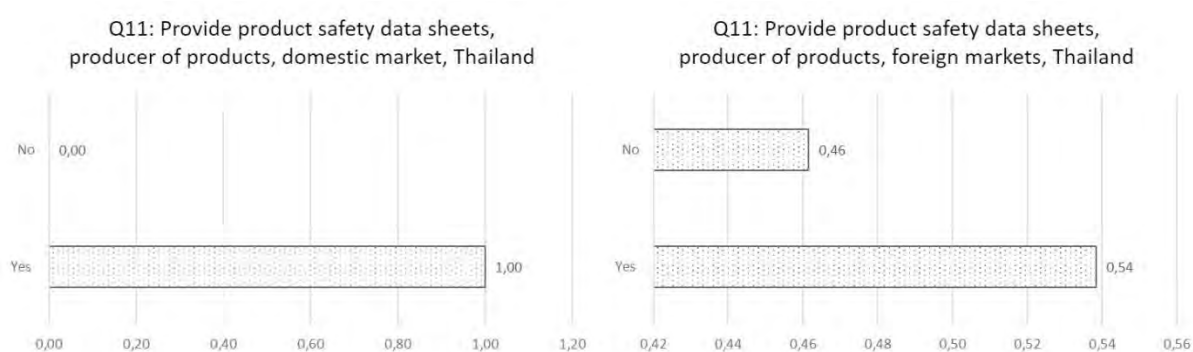
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 3, Thailand); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 13, Thailand).



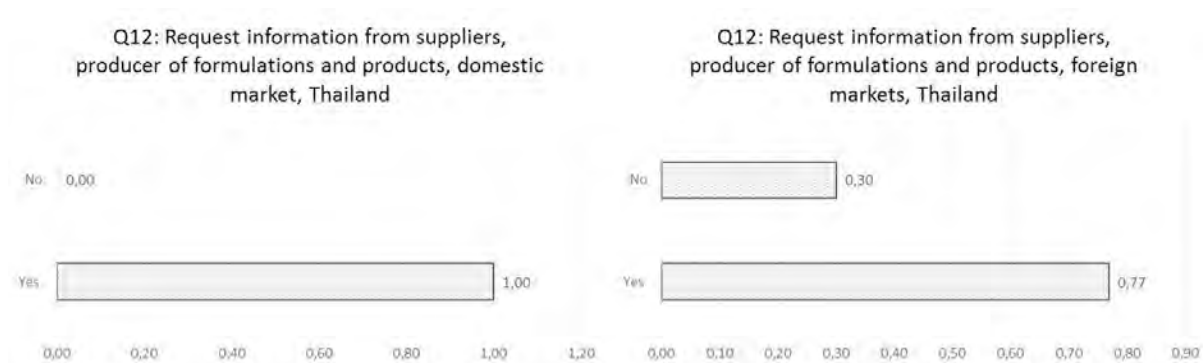
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



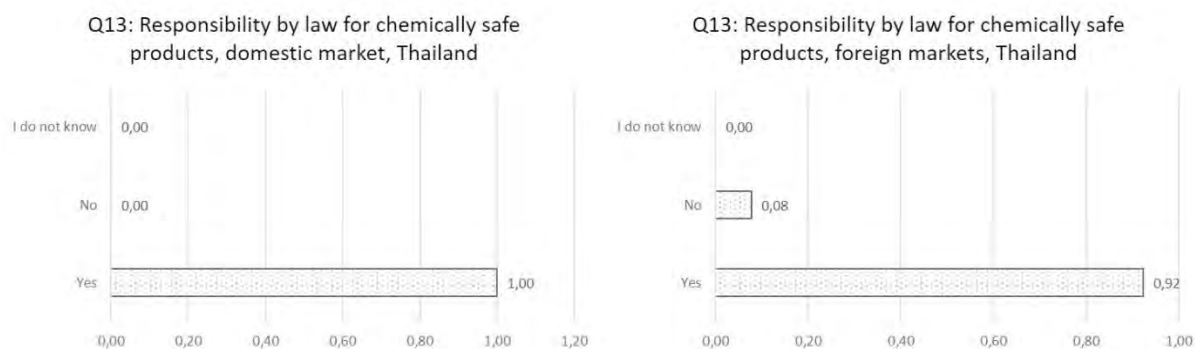
**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



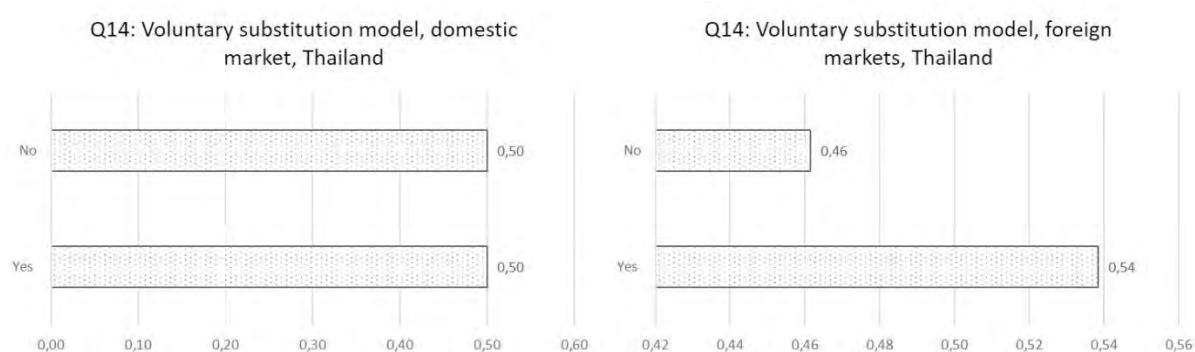
**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



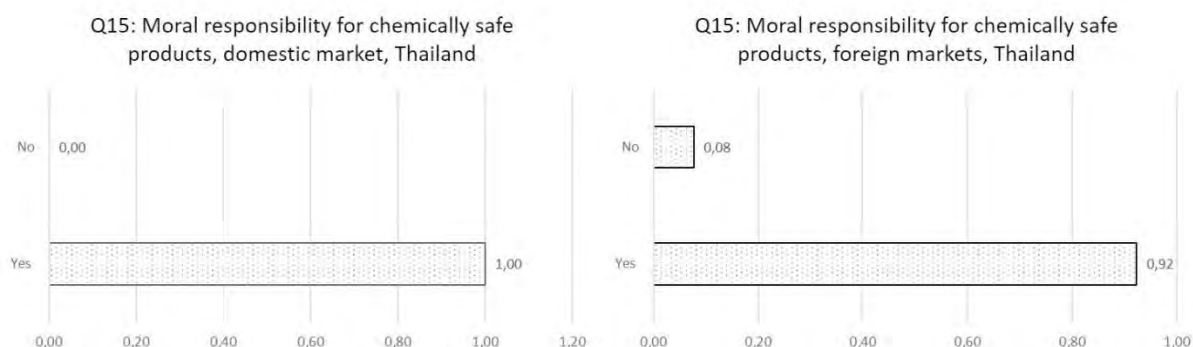
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 3, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



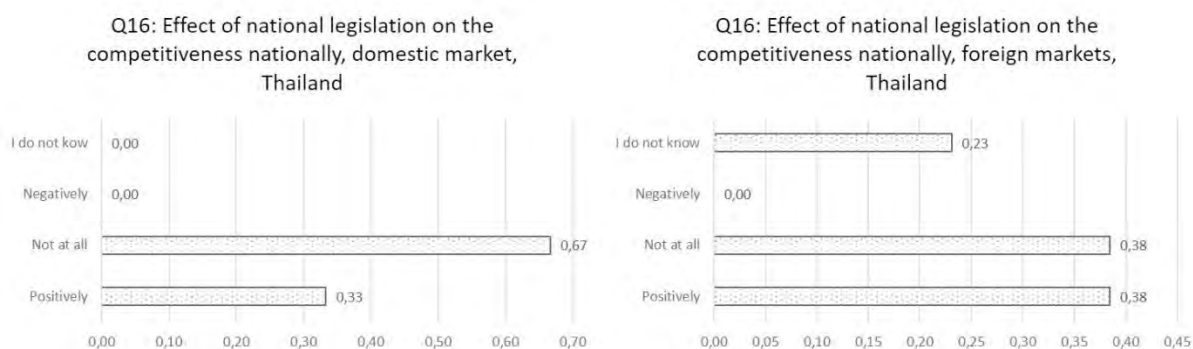
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, Thailand); the right the share of companies substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



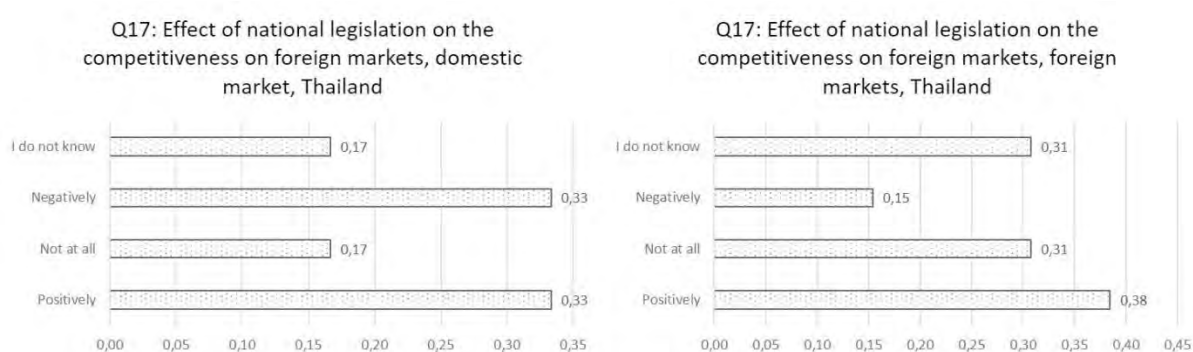
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, Thailand); the right the share of companies with the main annual turnover (>50%) from foreign markets (sample size: 13, Thailand).



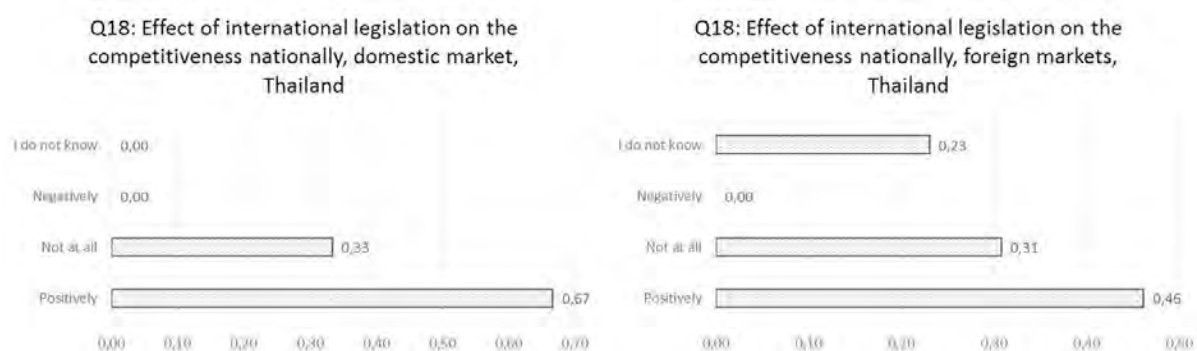
**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 6, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



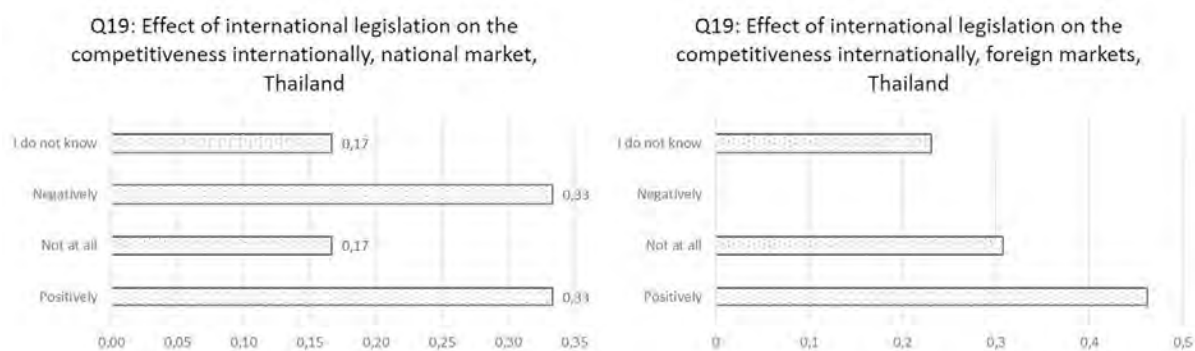
**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



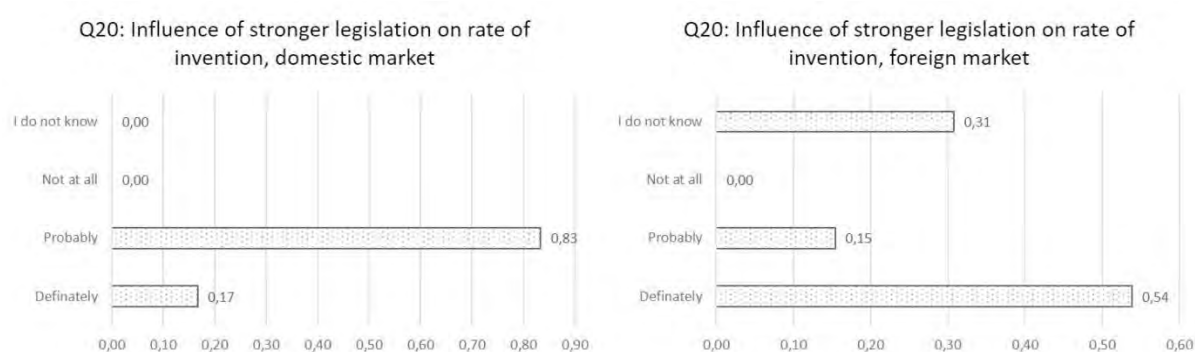
**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, Thailand); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).



**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, Thailand); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 13, Thailand).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 6, Thailand; the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 13, Thailand).

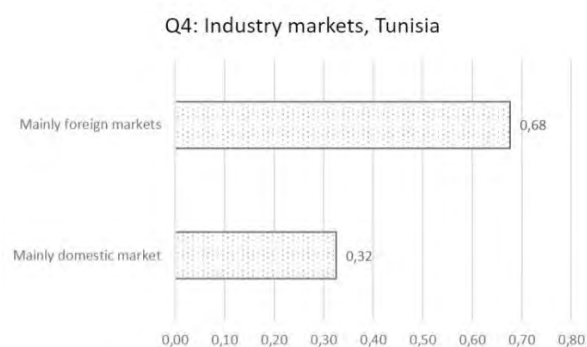


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 6, Thailand; the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 13, Thailand).

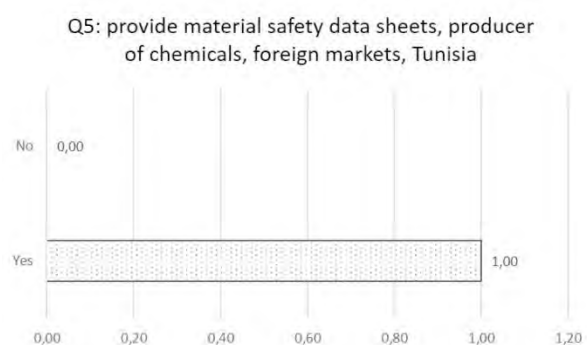
## Appendix U

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.68 for the option "mainly foreign markets" in Figure 1 implies that 68% of the poll respondents picked this option; 0.32 that 32% picked the option "mainly domestic market".

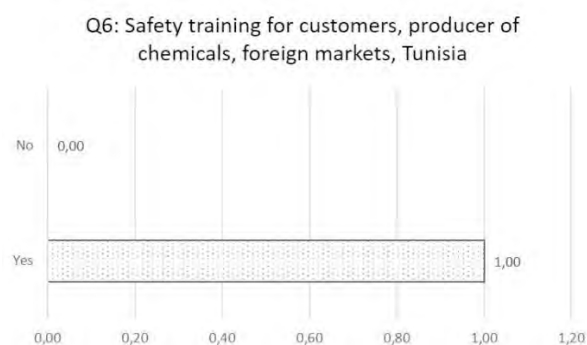
### Tunisia



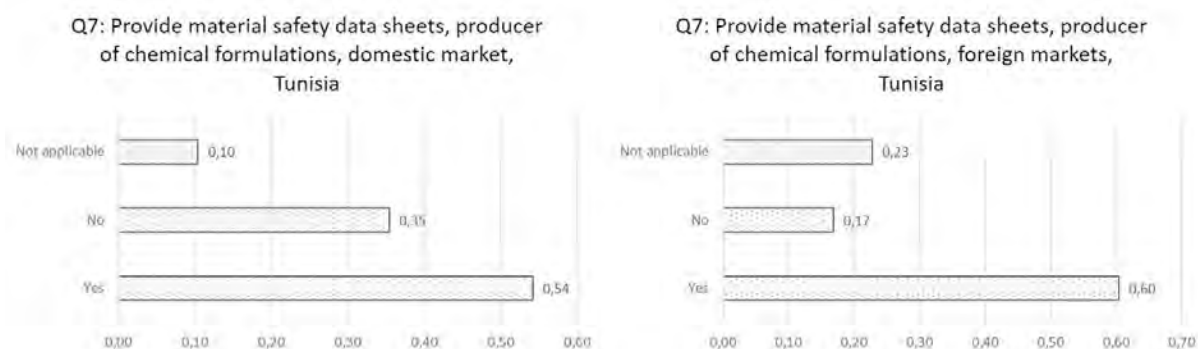
**Figure 1:** Share of participating Tunisian companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 150, Tunisia).



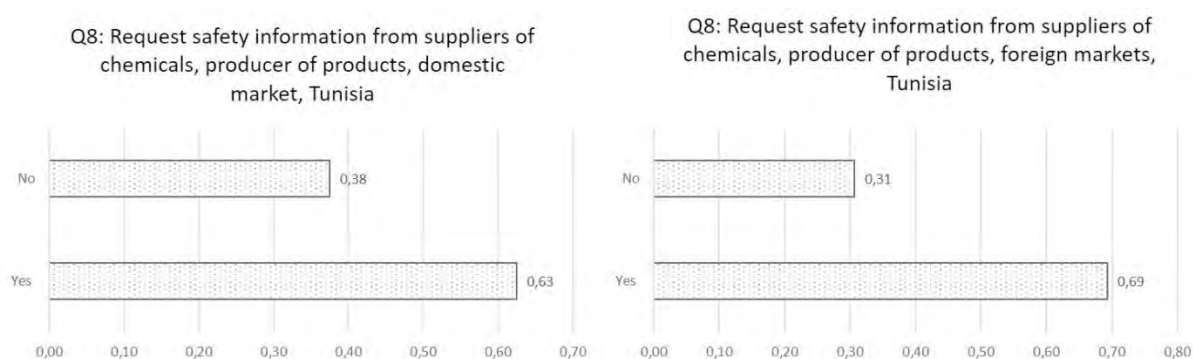
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the foreign markets (sample size: 1, Tunisia).



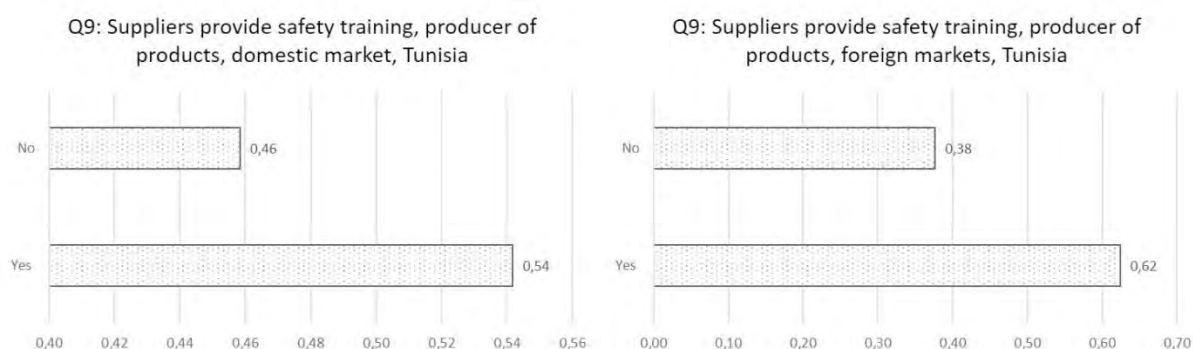
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The graph shows the share of companies with a substantial proportion of the annual turnover from the foreign markets (sample size: 1, Tunisia).



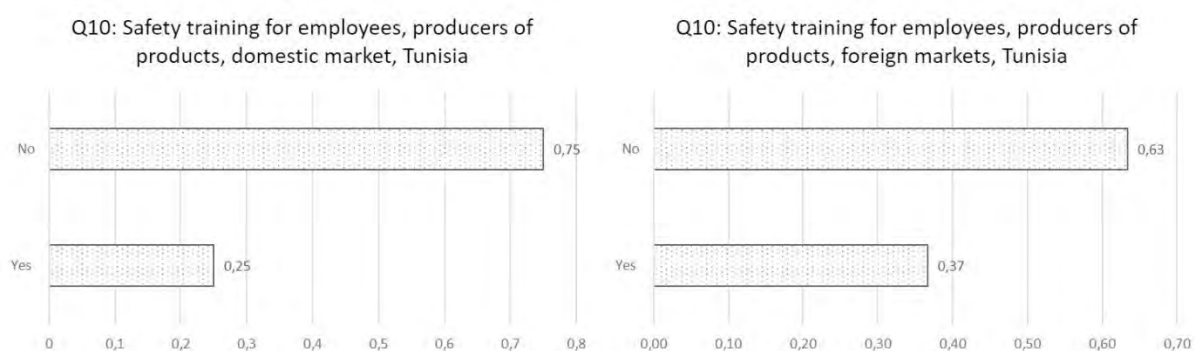
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 101, Tunisia).



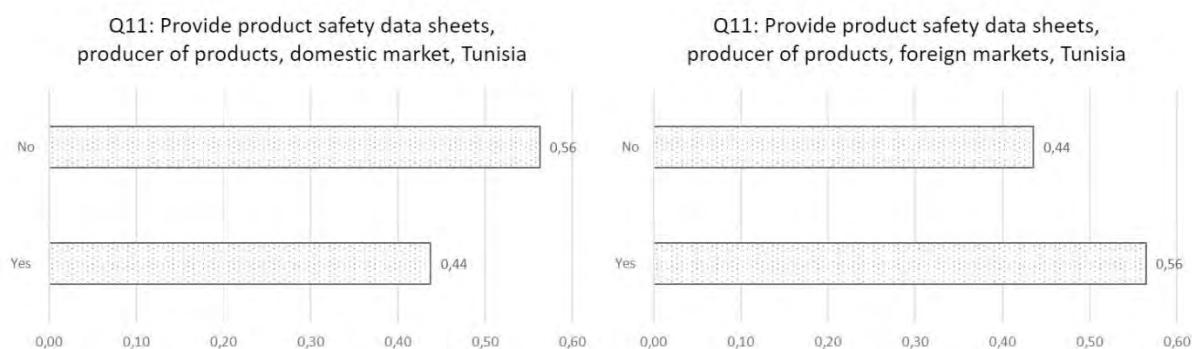
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 101, Tunisia).



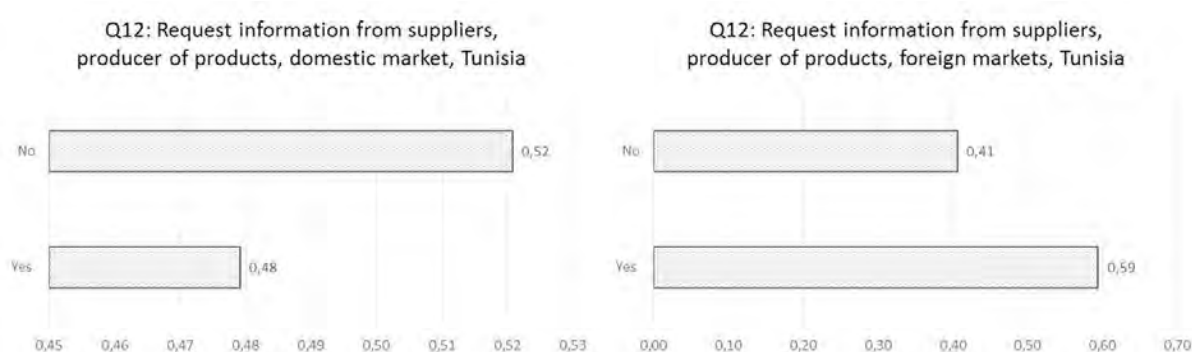
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion of the annual turnover (>50%) from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 101, Tunisia).



**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 101, Tunisia).

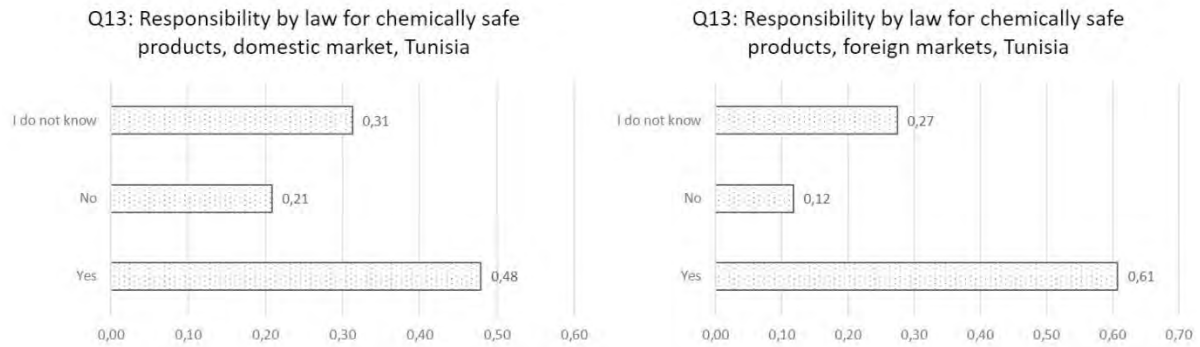


**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 101, Tunisia).

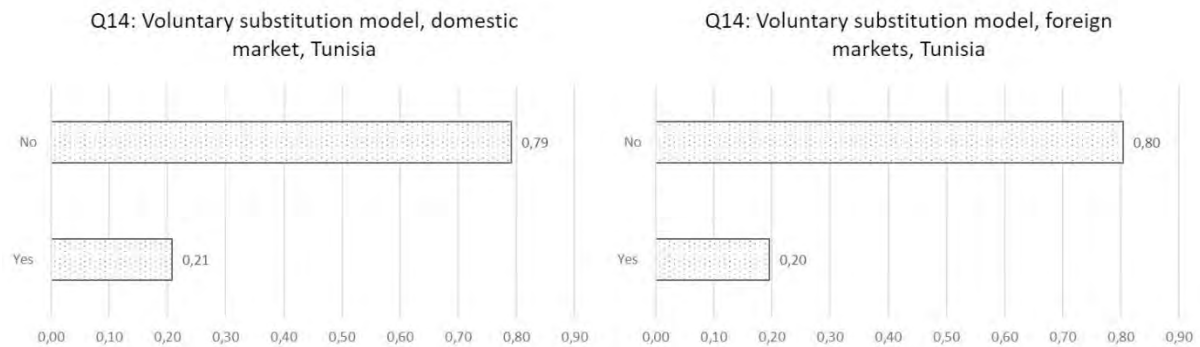


**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 49, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 101, Tunisia).

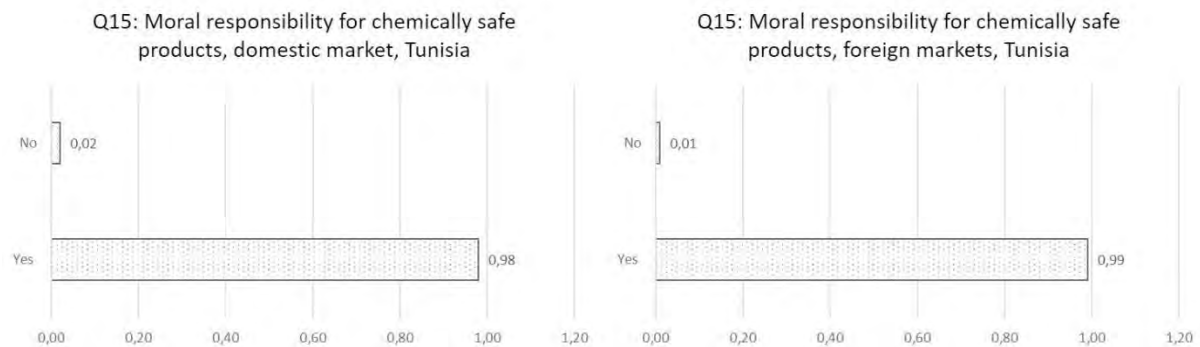




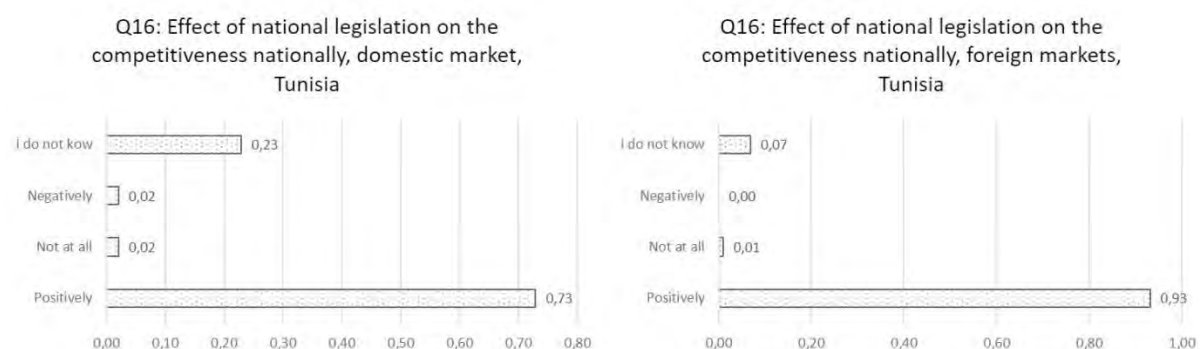
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 102, Tunisia).



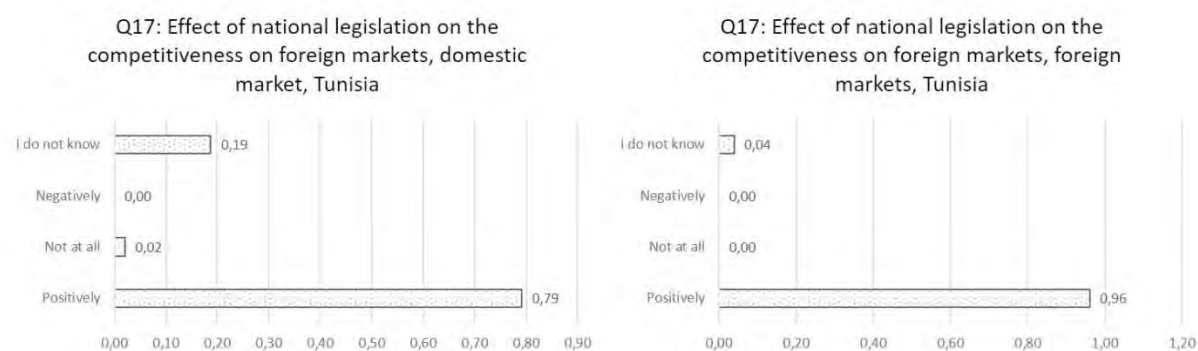
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with the main annual turnover (>50%) from foreign markets) (sample size: 102, Tunisia).



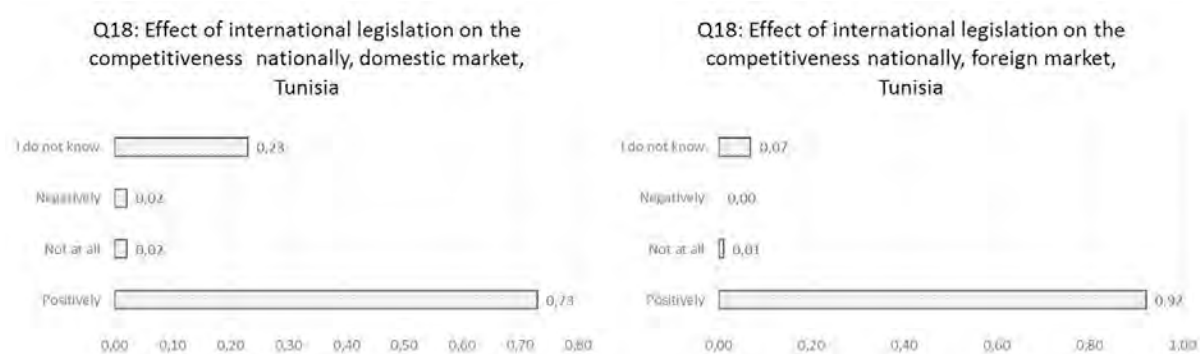
**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets) (sample size: 102, Tunisia).



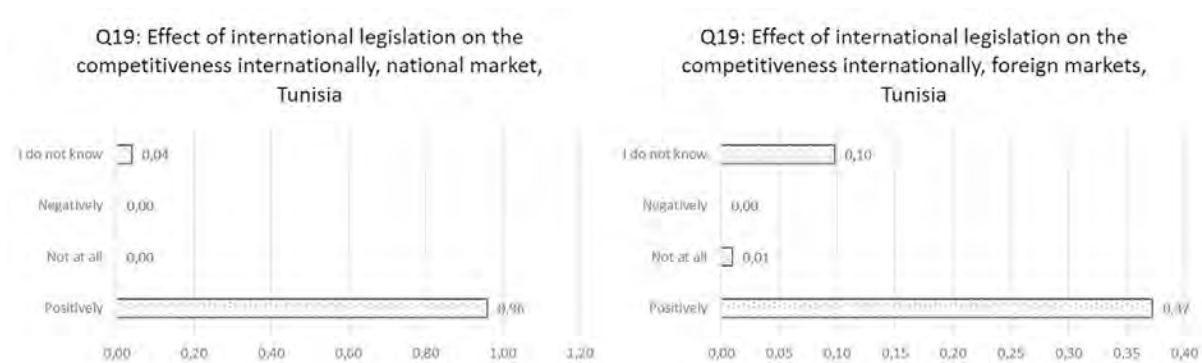
**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 102, Tunisia).



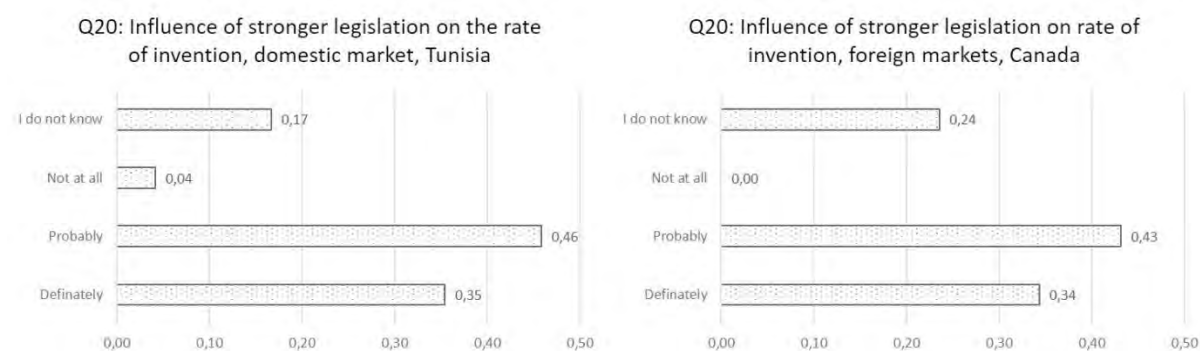
**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 102, Tunisia).



**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 102, Tunisia).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 48, Tunisia; the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 102, Tunisia).

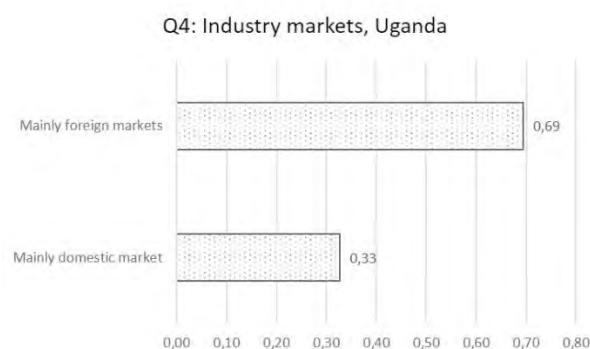


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 48, Tunisia; the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 102, Tunisia).

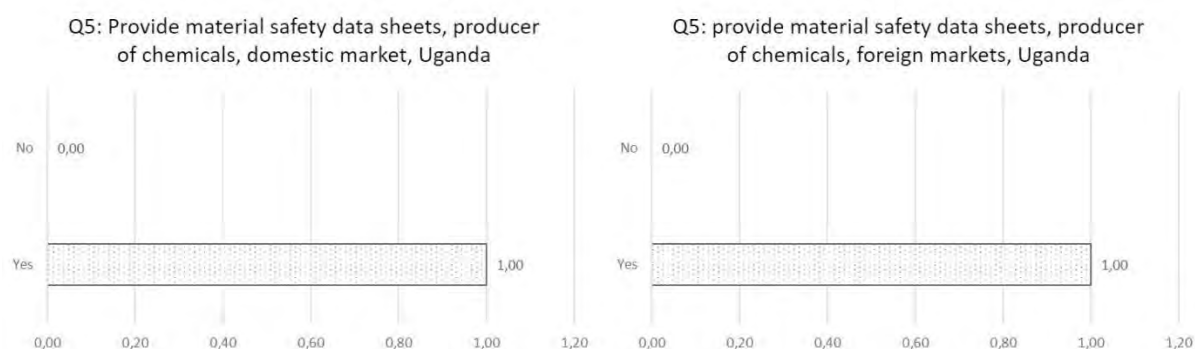
## Appendix V

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.69 for the option "mainly foreign markets" in Figure 1 implies that 69% of the poll respondents picked this option; 0.33 that 33% picked the option "mainly domestic market".

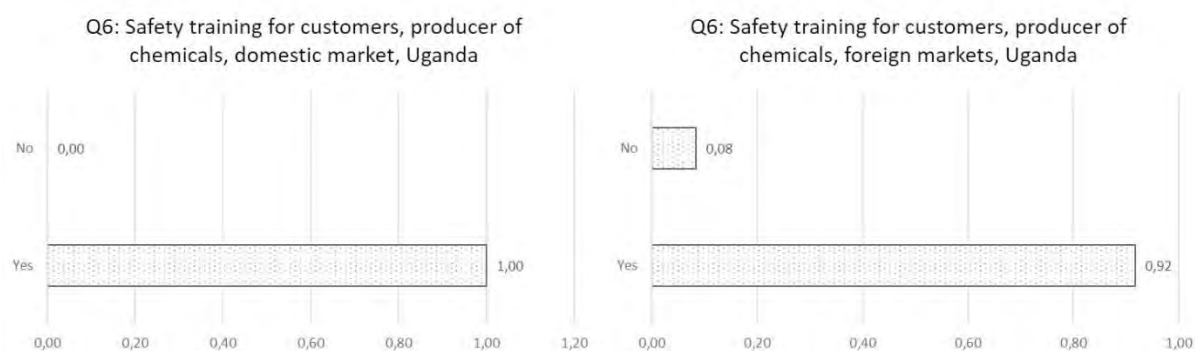
### Uganda



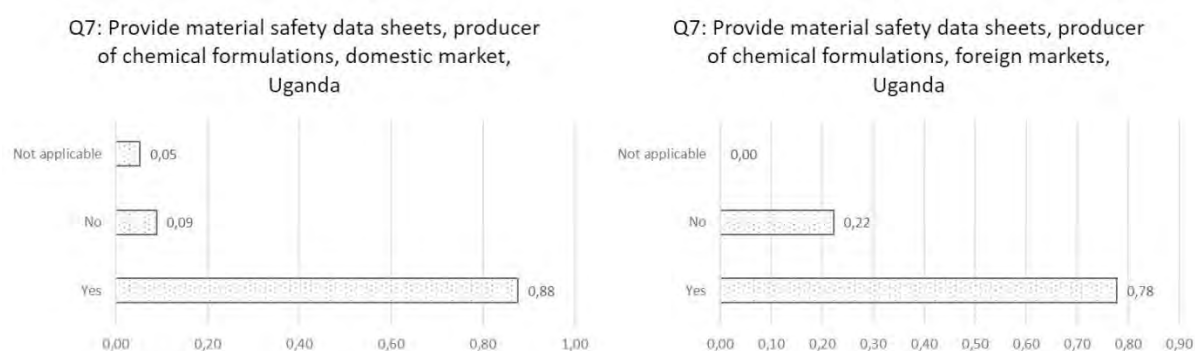
**Figure 1:** Share of participating Ugandan companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 147, Uganda).



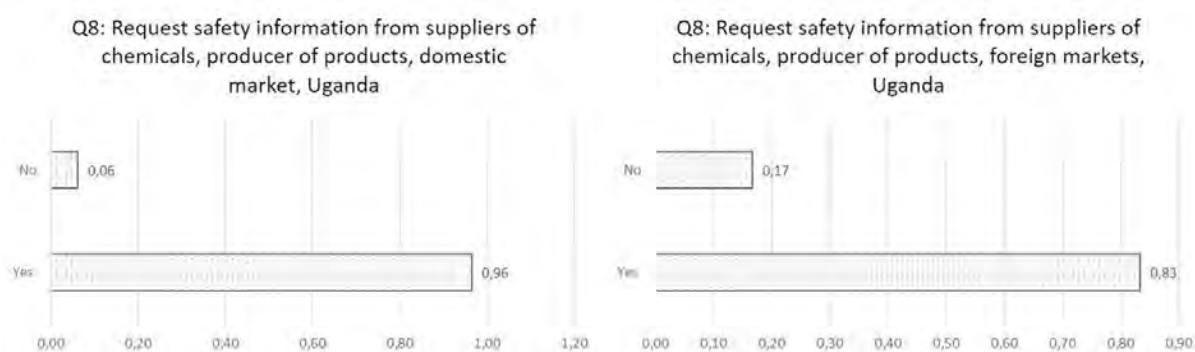
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 12, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Uganda).



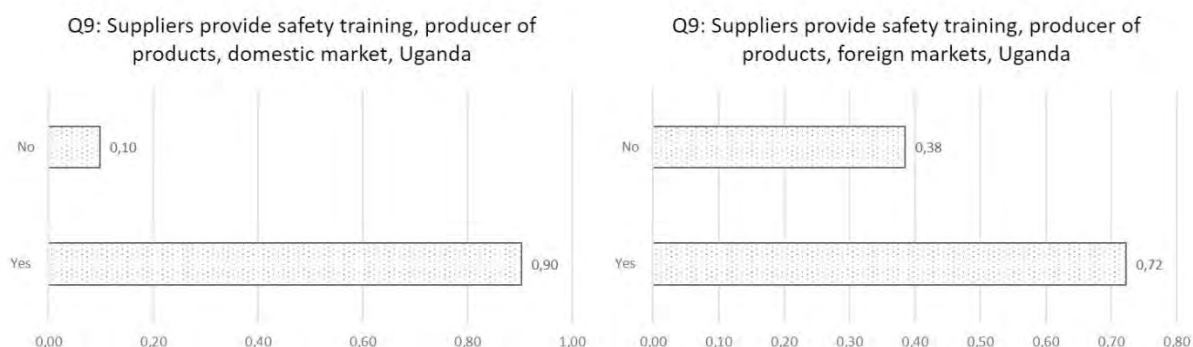
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The left graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 12, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 4, Uganda).



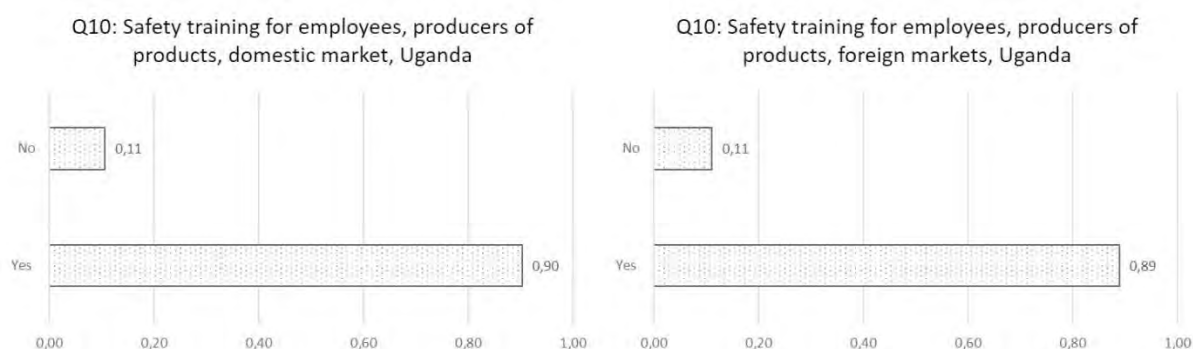
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 113, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 18, Uganda).



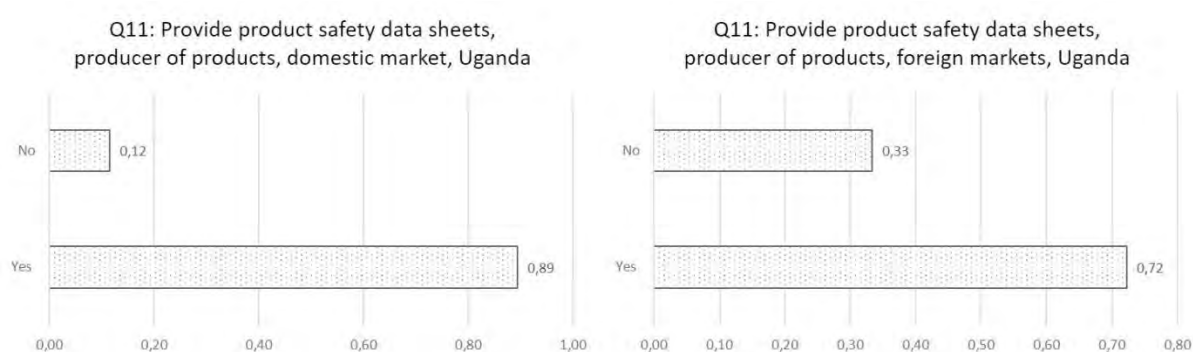
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 113, Uganda); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 18, Uganda).



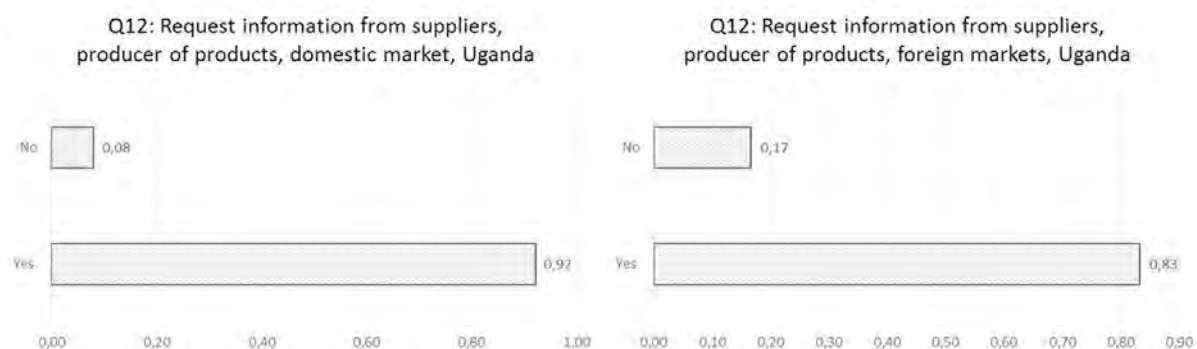
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover (>50%) from the domestic market (sample size: 113, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 18, Uganda).



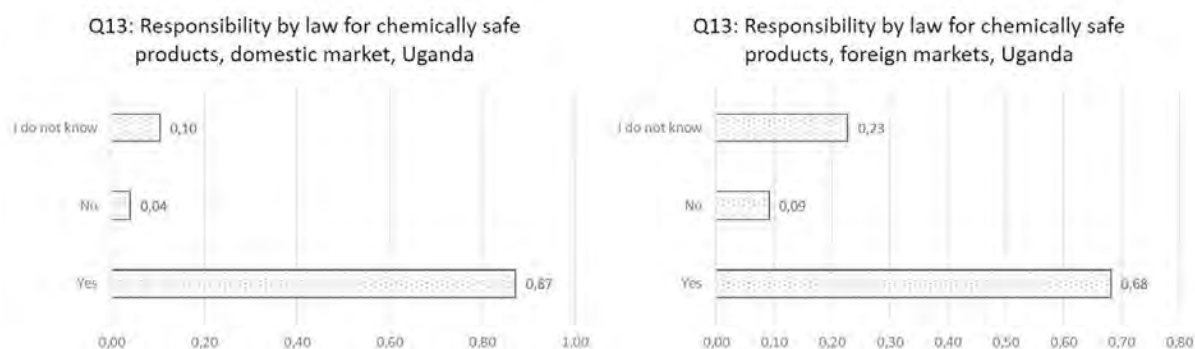
**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 113, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 18, Uganda).



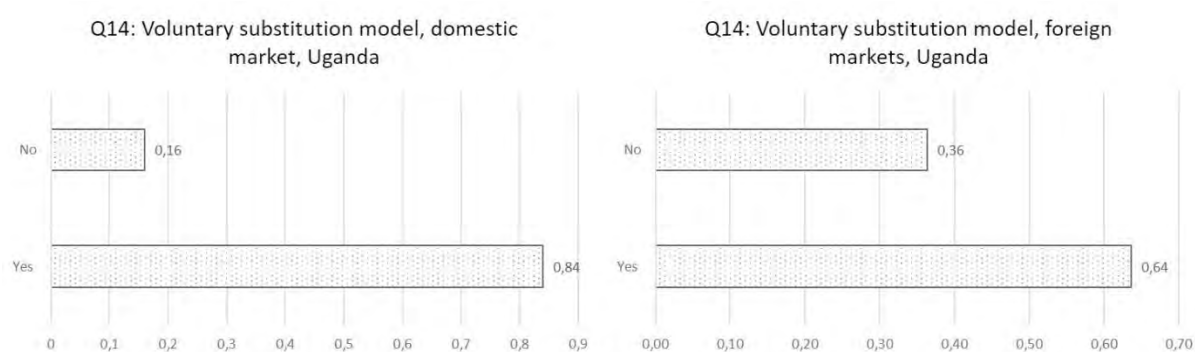
**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 113, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 18, Uganda).



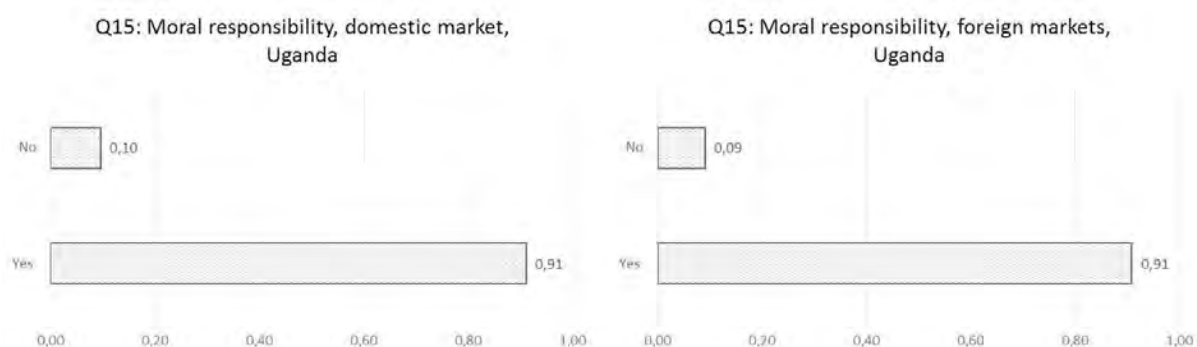
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 113, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 18, Uganda).



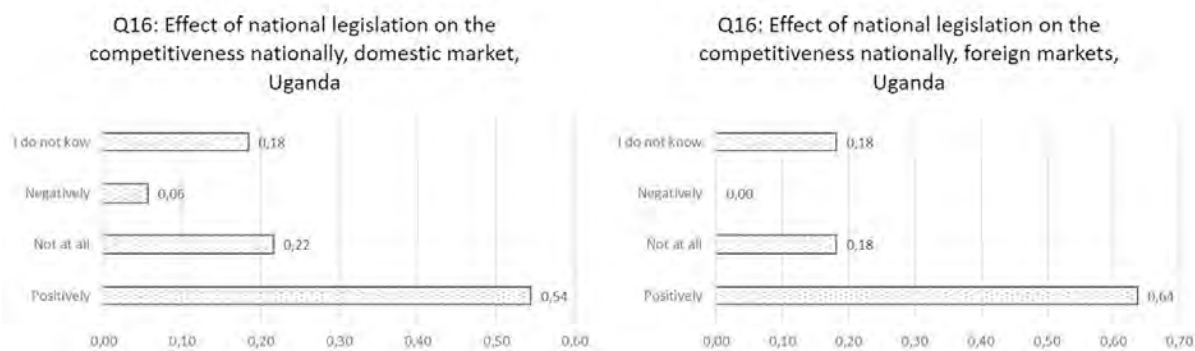
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 22, Uganda).



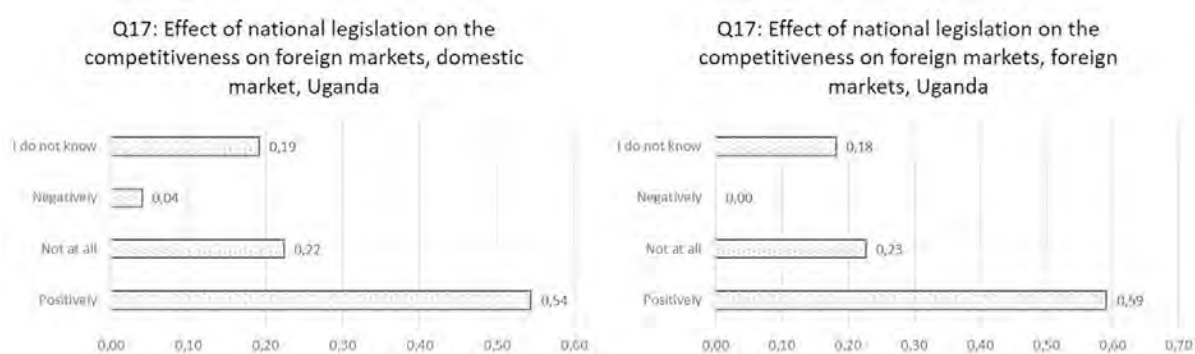
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with the main annual turnover (>50%) from foreign markets (sample size: 22, Uganda).



**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 22, Uganda).

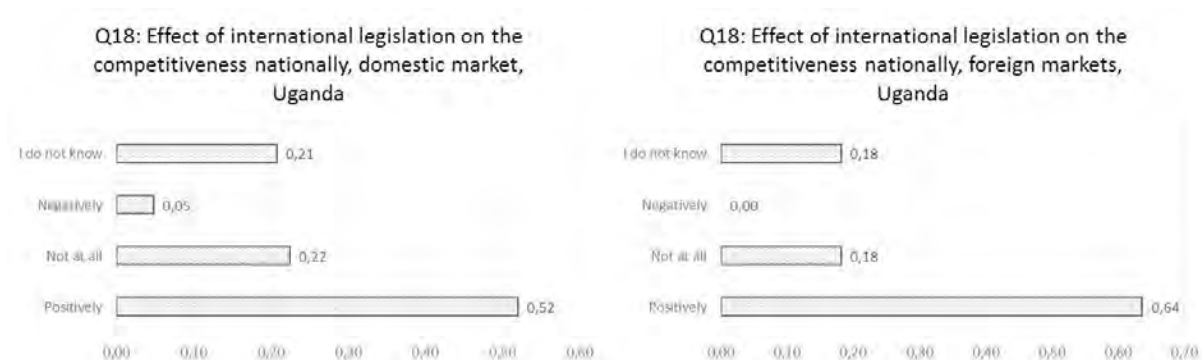


**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 22, Uganda).

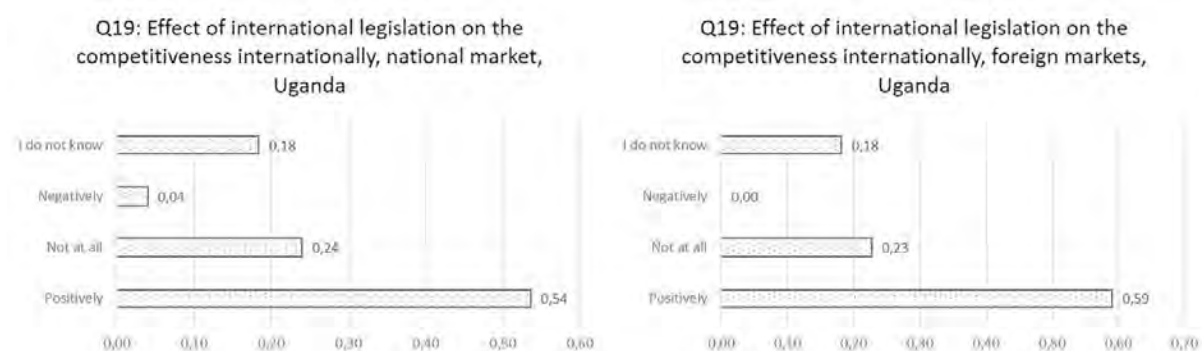


**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 22, Uganda).

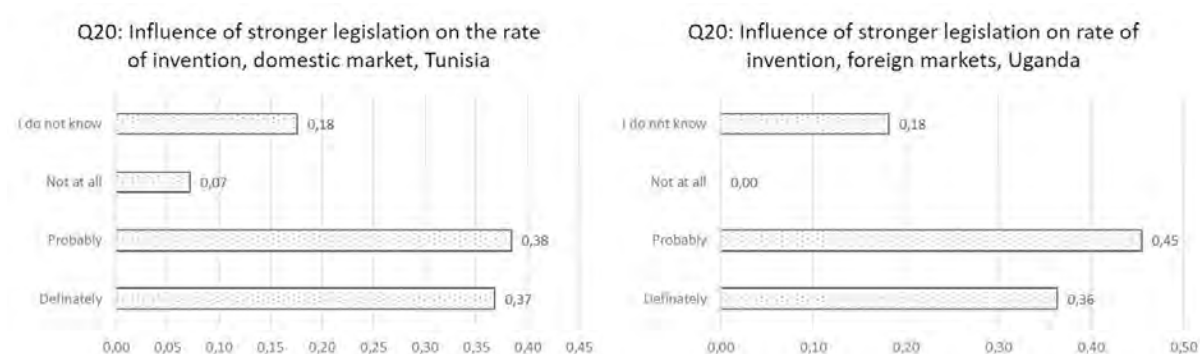




**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 22, Uganda).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 22, Uganda).

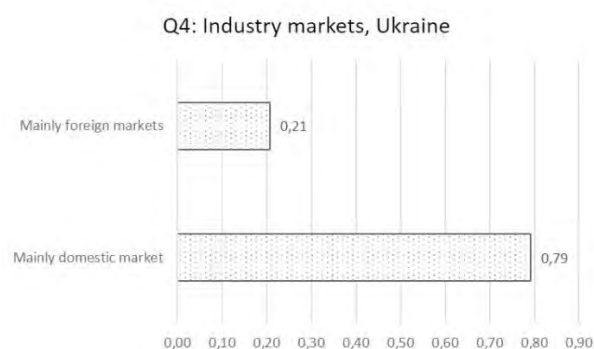


**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 125, Uganda); the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 22, Uganda).

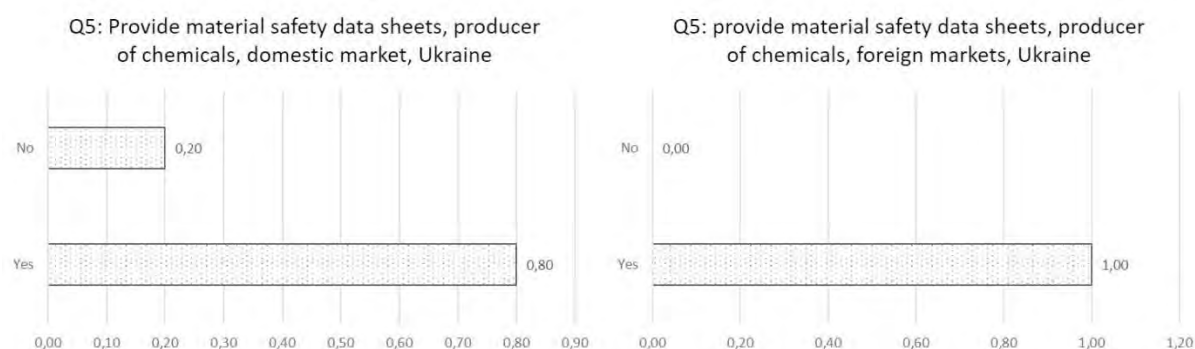
## Appendix X

In all graphs the scale for the share of replies are on the x-axis (horizontal axis of the graph); and the different reply options are presented on the y-axis (vertical axis of the graph). For example 0.21 for the option "mainly foreign markets" in Figure 1 implies that 21% of the poll respondents picked this option; 0.79 that 79% picked the option "mainly domestic market".

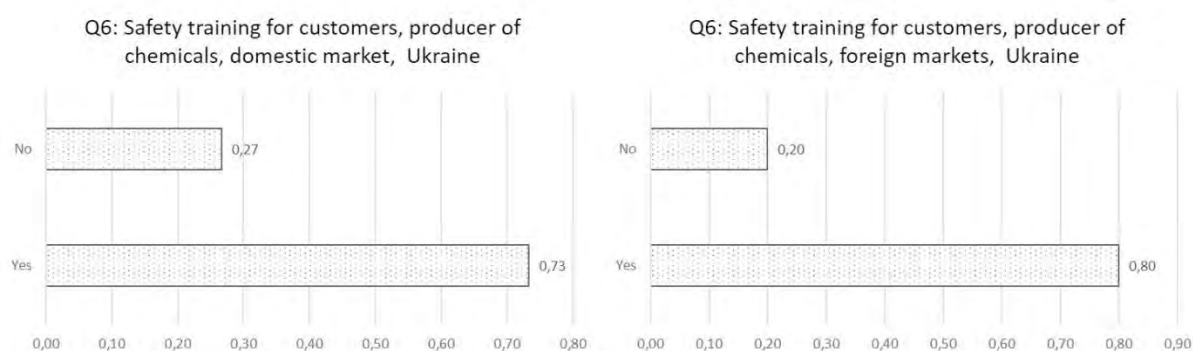
### Ukraine



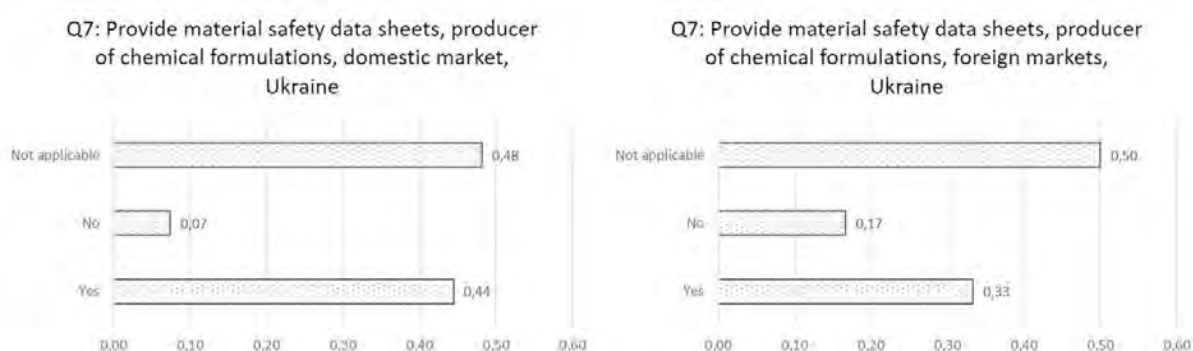
**Figure 1:** Share of participating Ugandan companies with a substantial proportion of the annual turnover domestically and on foreign markets, respectively (sample size: 53, Ukraine).



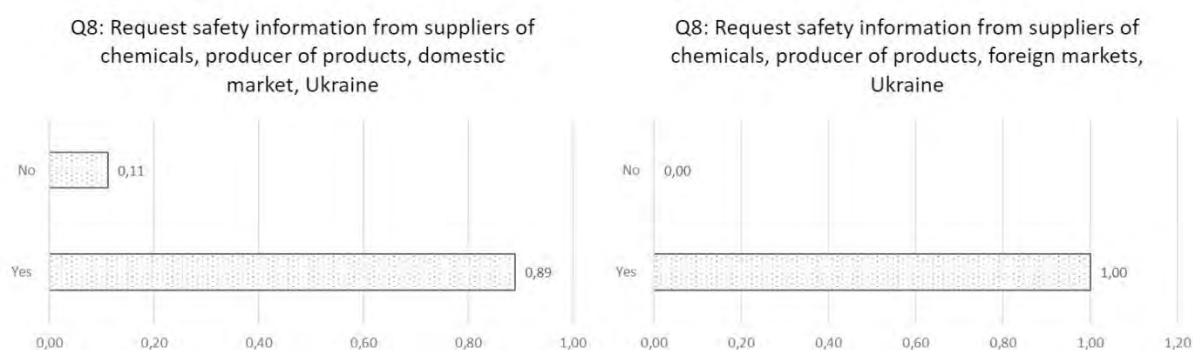
**Figure 2:** Share of companies that are producers of chemicals, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 5, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 5, Ukraine).



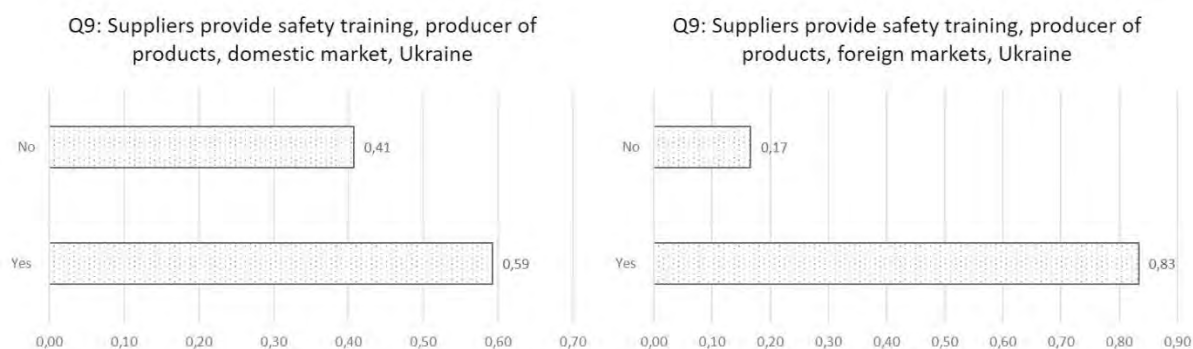
**Figure 3:** Share of companies that are providers of chemicals, providing their customers with safety trainings. The left graph shows the share of companies with a substantial proportion of the annual turnover from the domestic market (sample size: 5, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 5, Ukraine).



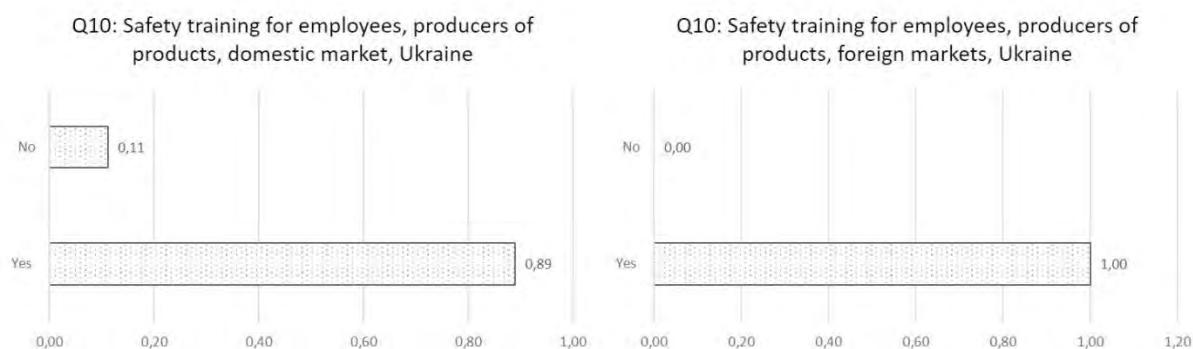
**Figure 4:** Share of companies that are users of chemicals in the formulation of more complex chemical products, providing their customers with material safety data sheets, e.g. GHS formatted. The left graph shows the share of companies with a substantial proportion (>50%) of the annual turnover from the domestic market from the domestic market (sample size: 27, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Ukraine).



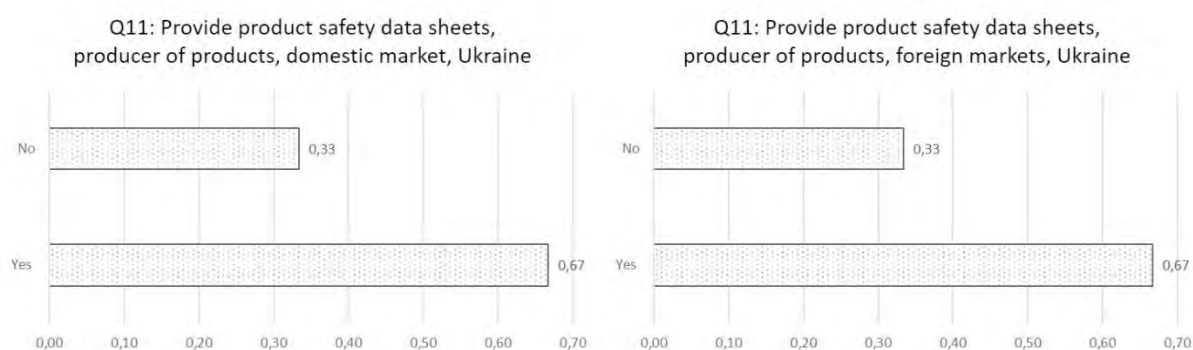
**Figure 5:** Share of companies that are producer of products and that request safety information, e.g. GHS formatted material safety data sheets, from the suppliers of the chemicals. The left graph shows the share of companies with a substantial portion of the main annual turnover (>50%) from the domestic market (sample size: 27; Ukraine); the right the share of companies with a substantial proportion of the annual turnover (>50%) from foreign markets (sample size: 6, Ukraine).



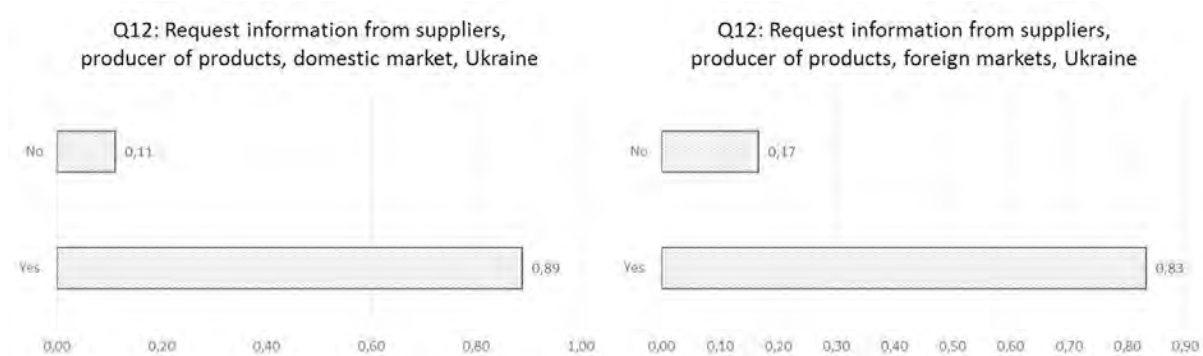
**Figure 6:** Share of companies that are producers of products and that get safety training from their suppliers of the chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover (>50%) from the domestic market (sample size: 27, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Ukraine).



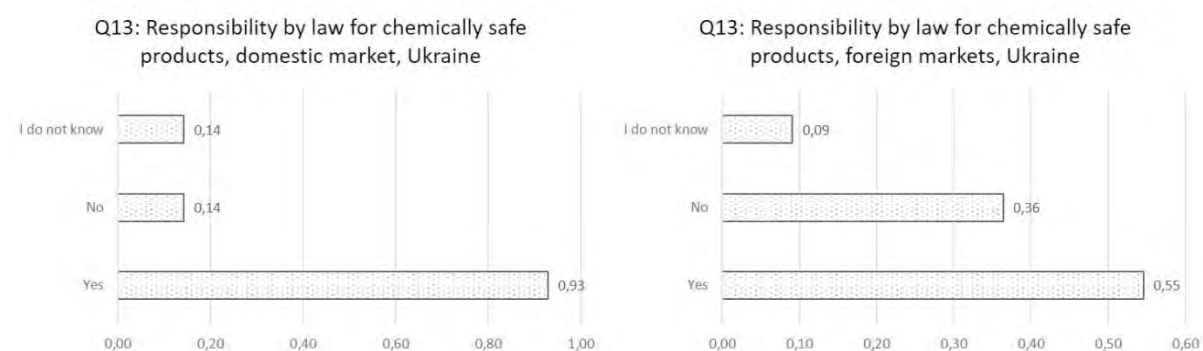
**Figure 7:** Share of companies that are producers of products and that provide their employees with safety training on chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 27, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Ukraine).



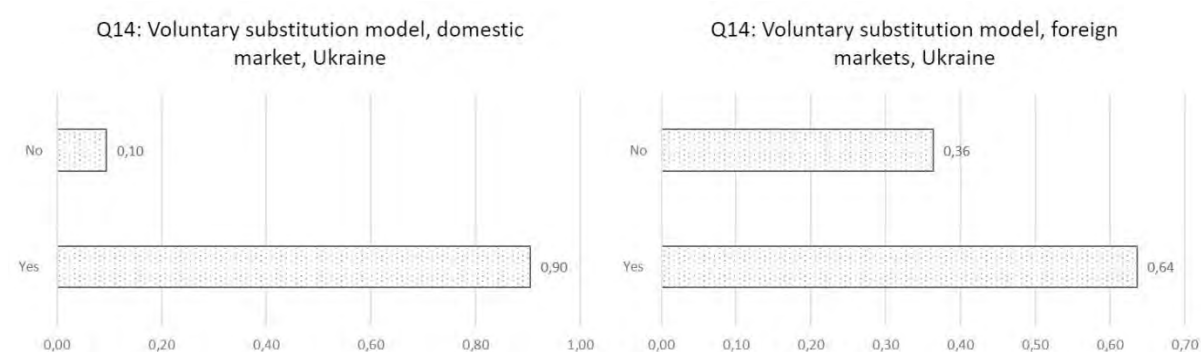
**Figure 8:** Share of companies that are producers of products and that provide their customers with product safety data sheets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 27, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Ukraine).



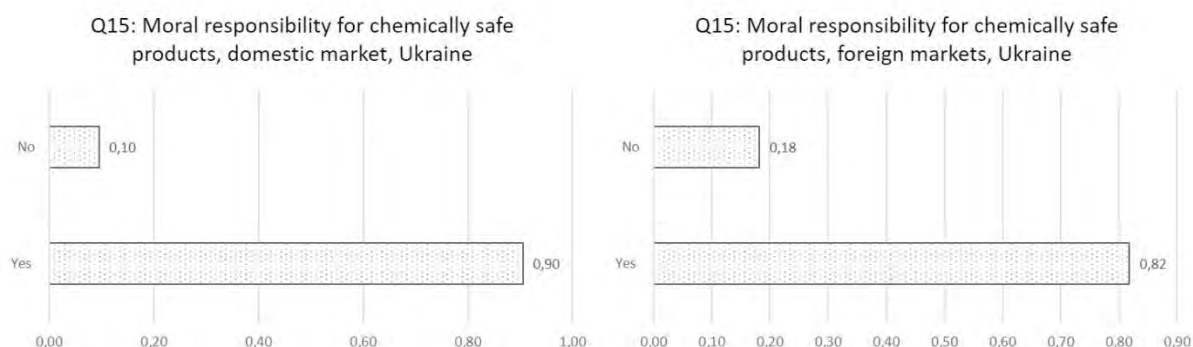
**Figure 9:** Share of companies that are producers of products and that request material safety data sheets for components from the supplies. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 27, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 6, Ukraine).



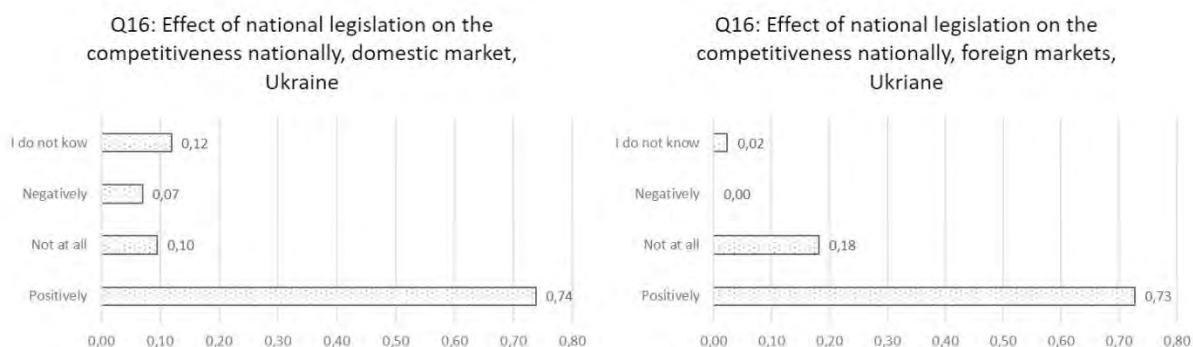
**Figure 10:** Share of companies that say that they by law are responsible for ensuring that their products are safe to health and environment with respect to the chemical content. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 11, Ukraine).



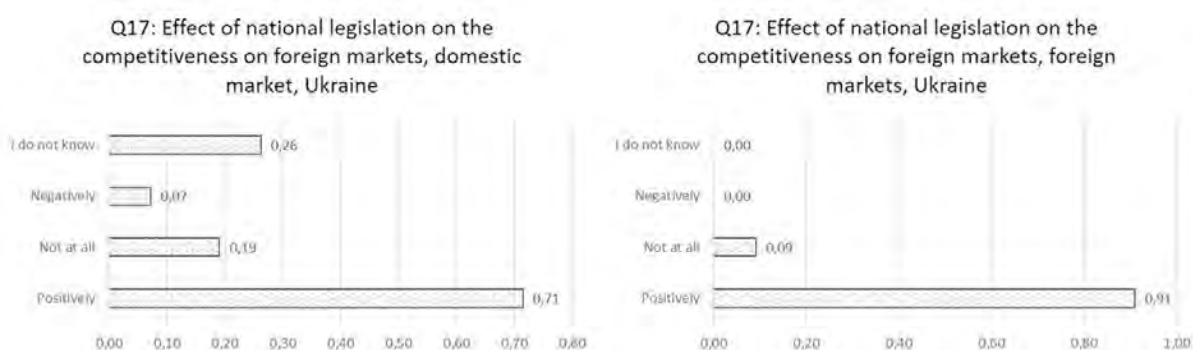
**Figure 11:** Share of companies applying a voluntary model for substituting hazardous chemicals. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with the main annual turnover (>50%) from foreign markets (sample size: 11, Ukraine).



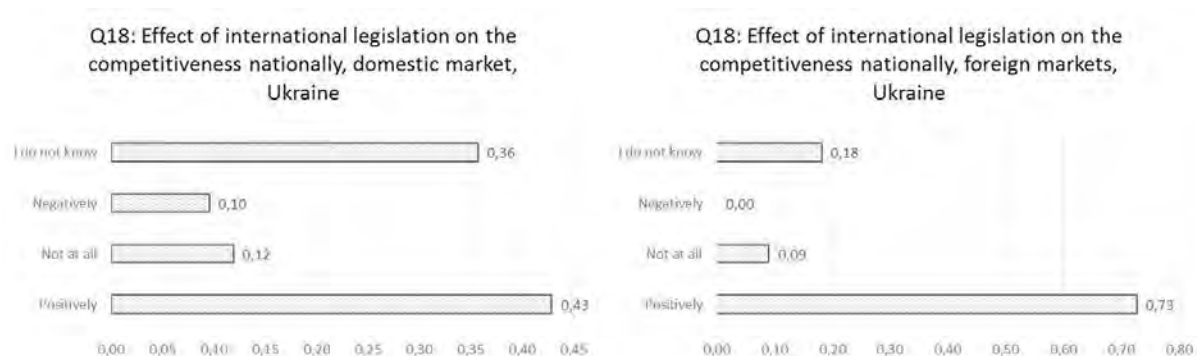
**Figure 12:** Share of companies stating that they are morally responsible for ensuring products that are chemically safe to health and environment. The left graph shows the share for companies with a substantial proportion (>50%) of their annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 11, Ukraine).



**Figure 13:** Reflections on how stronger national chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 11, Ukraine).



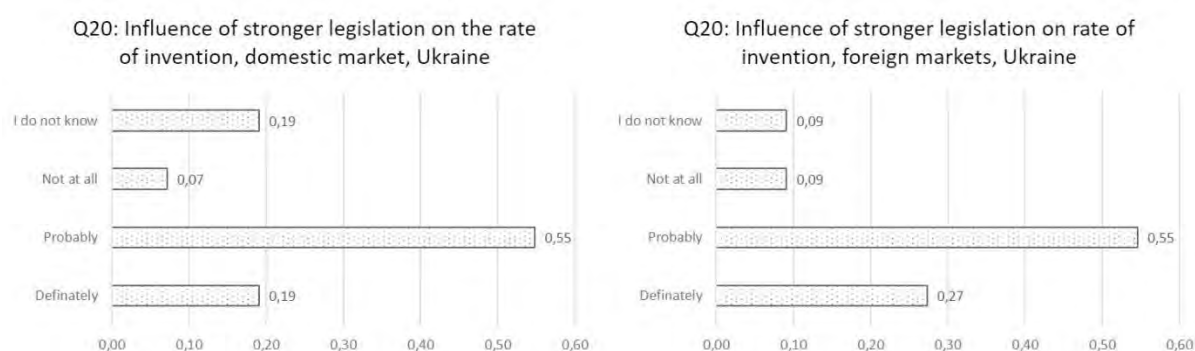
**Figure 14:** Reflections on how stronger national chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 11, Ukraine).



**Figure 15:** Reflections on how stronger international chemicals legislation would affect the competitiveness on the national market. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with a substantial proportion (>50%) from foreign markets (sample size: 11, Ukraine).



**Figure 16:** Reflections on how stronger international chemicals legislation would affect the competitiveness on foreign markets. The left graph shows the share for companies with a substantial proportion (>50%) of the annual turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover from foreign markets (sample size: 11, Ukraine).



**Figure 17:** Reflections on how stronger chemicals legislation would affect the rate of inventing new products. The left graph shows the share for companies with a substantial proportion (>50%) of the turnover from the domestic market (sample size: 42, Ukraine); the right the share of companies with a substantial proportion (>50%) of the annual turnover foreign markets) (sample size: 11, Ukraine).



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The Swedish Society for Nature Conservation is an environmental organisation with power to bring about change. We spread knowledge, map environmental threats, create solutions, and influence politicians and public authorities, at both national and international levels. Moreover, we are behind one of the world's most challenging ecolabellings,

“Bra Miljöval”(Good Environmental Choice). Climate, the oceans, forests, environmental toxicants and agriculture are our main areas of involvement.

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Bra Miljöval